

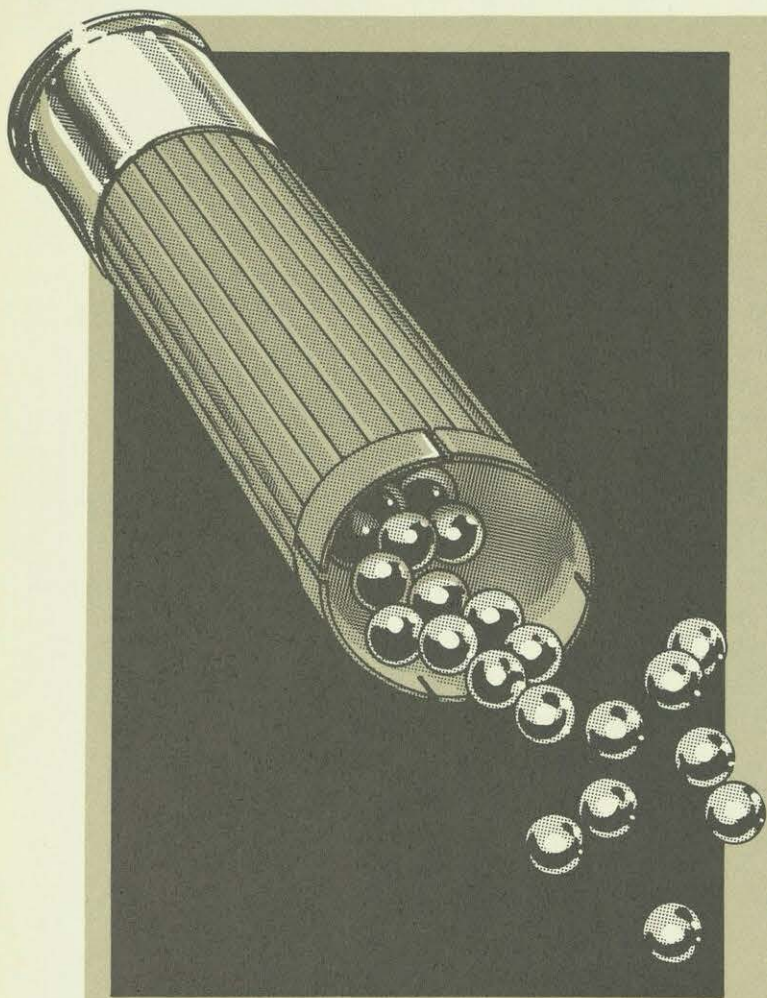
FLORIDA WILDLIFE[®]

Volume 40, Number 6

November-December 1986



DUCK HUNTERS



- Brevard County
- Citrus County
- Dade County
- Leon County—(Exclusive of Lake Talquin and the Ochlockonee River)
- Osceola County
- Volusia County
- Lochloosa Lake
- Broward County
- Collier County
- Polk County
- Lake George
- Lake Miccosukee
- Lake Okeechobee—(The area lying lakeward of, and bounded by, the Lake Okeechobee Levee, by S.R. 78 Kissimmee River Bridge and by S.R. 78 from its intersections with the Lake Okeechobee Levee at points near Lakeport and the Old Sportsman's Village Site)
- Orange Lake (Alachua County)
- Lake Ponte Vedra
- M-K Ranch Public Waterfowl Area
- Occidental Wildlife Management Area
All of the Occidental phosphate mine pits east of U.S. Hwy 41; west of S.R. 135; south of S.R. 6 and north of White Springs, all located in Township 1 North; Ranges 15 and 16 East and Township 1 South; Ranges 15 and 16 East in Hamilton County
- The St. Johns River flood plain lying in Lake, Seminole and Orange counties
- That portion of Lake Rousseau lying in Levy and Marion counties
- That portion of Everglades Conservation Area Two in Palm Beach County
- All National Wildlife Refuges that allow waterfowl hunting

**NONTOXIC STEEL SHOT
MUST BE USED IN ALL
GAUGE SHOTGUNS WHEN
HUNTING DUCKS IN THE
ABOVE AREAS.**

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the nearest office of the Game &
Fresh Water Fish Commission



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Lake City: 1/800-342-8105
West Palm Beach: 1/800-432-2046
Panama City: 1/800-342-1676

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THE COVERS

Our front cover illustration is from a painting by John Roberge. The back cover photograph of a male wood duck is by Tom Ulrich.



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Home-Smoked Fish

A Gourmet's Delight

By Frank Meyer

It recently occurred to me that one major reason there are so many more people who enjoy eating smoked fish than people who do the actual smoking is intimidation. Smoking fish seems difficult, highly technical, expensive and time consuming to many people. So, most seem to figure the best policy is to leave this operation to the experts.

But, the pleasure your nose and taste buds get from the brown-crust, hickory-flavored flesh of a fresh mullet is worth a little effort, wouldn't you say? And much less is required to smoke them at home than you might imagine.

Centuries ago, humans discovered that food could be preserved by smoking, salting or drying. In more recent times, the smoking process has continued because of the special taste quality it imparts. Any kind of meat, fowl or fish can be smoked, usually with as many different results as tastes. I prefer to smoke fish because, when done correctly, the procedure is a gentle method of changing food from a raw to a palatable state without losing its delicate flavor in the process. You can smoke both freshwater and saltwater fish, but fatter fish have a

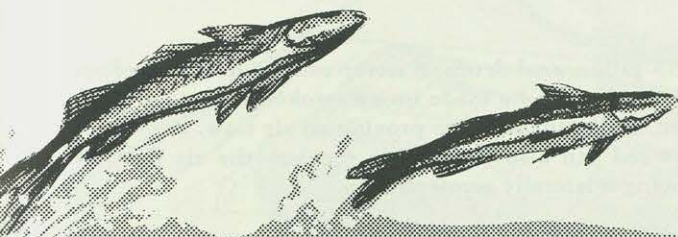
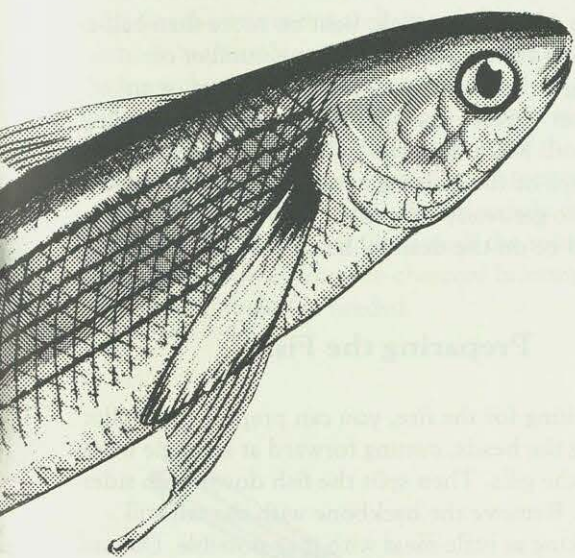


slight edge in the taste department because they retain more moistness.

My favorite species to prepare is mullet. The mullet is plentiful year-round, high in nutritional value and inexpensive. However, I have enjoyed mackerel, amberjack, sheepshead, largemouth bass, catfish, salmon and speckled perch almost as much, if not as often.

Smoking your own fish gives you a fresher product than you can ordinarily find in the stores. It also allows you to experiment and develop the individual taste you prefer. Smoked fish is the do-it-yourself gourmet's dream come true.

Being a vegetarian, the mullet has never earned much of a sport fishing reputation. Most are taken commercially by gill nets, although a few are caught in cast nets. Even fewer hit doughballs fished with a fly rod, but that's another story. Basically, a fish market is your easiest bet for mullet.



As is often the case with much wildlife, the smaller, the tastier, so try to get fish between one and two pounds, and buy at least one for each person you plan to feed. Make sure the fish aren't scaled or filleted before you buy them. Leaving the scales on prevents excess heat from getting to and overcooking the meat.

Build Your Own Smoker

Almost any container which has a controllable air supply can be used for a smoker. A discarded refrigerator works well. You can build your own if you're handy with a few ordinary tools. Here's how:

Remove the compressor and motor from the refrigerator, then drill a dozen quarter-inch holes in the top, and the same number in the bottom. Your fire goes inside the refrigerator box, above the holes in the bottom. The vent holes must be off the ground and high enough so that the fire can draw air inside.

One word of caution, however, about the grill racks in some refrigerators. These are often chromium plated, and chromium is a highly poisonous metal when consumed by humans. If the racks you intend to use show any evidence of chrome plating—often in a "flaked" form on old refrigerator racks—thoroughly remove all the chromium, or better yet, use something else for racks.

Oven grills are usually free of chromium, and will thus make a safe grill for smoking fish and other meats. Also, you can easily fashion usable grills of 1" x 2" hardwood frames with 1/4-inch or 3/8-inch hardwood dowels for crossbars. Small rectangular, thin-wire grills from barbecue cookers also work well, as will unplated iron or steel grating.

Plastic liners inside of many modern units give off toxic gases when heated. For this reason, you should only use a unit which has an enameled metal liner. Also, never forget the potential dangers to small children from refrigerators which have latching doors that cannot be opened from the inside.

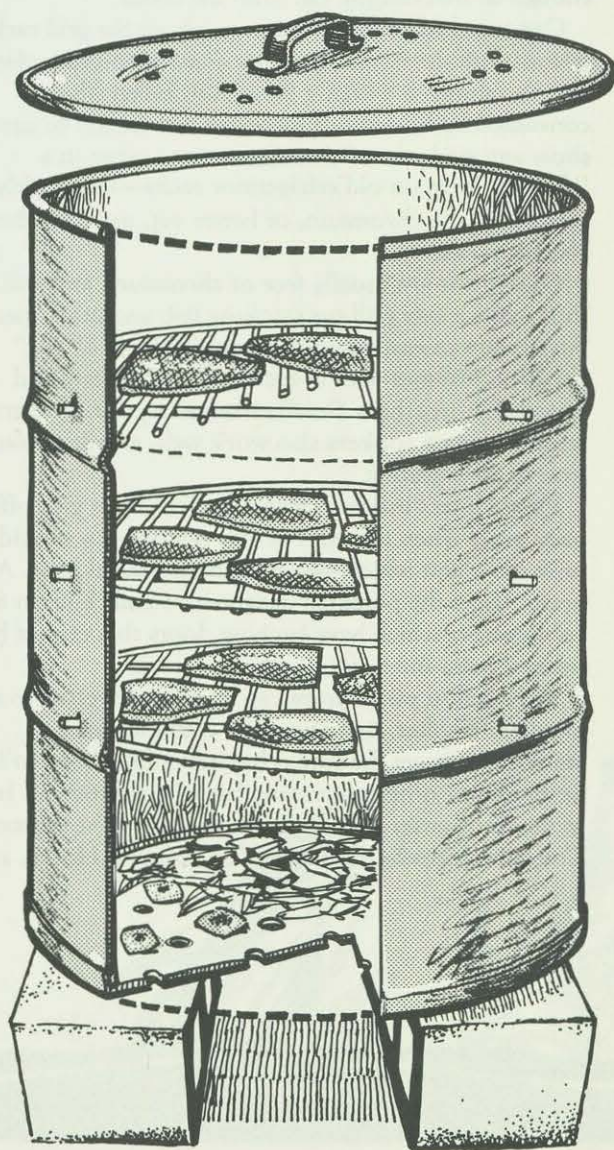
A 55-gallon metal drum can also be converted to an excellent smoker. Before using a drum to make a smoker, however, be sure it has never been used to hold pesticides or other potentially harmful substances. In mine, the quarter-inch drilled holes are in the bottom. The open-topped drum stands on concrete blocks, and ▷

several pairs of ½-inch steel reinforcing rods ("rebar") extend through holes drilled in the drum's sides to support round grills which hold the fish. My grills are from old charcoal cookers. The barrel smoker's top cover is simply a piece of plywood that can be moved laterally in order to regulate the flow of heat and smoke. If the plywood starts to burn or smolder, I know my fire is much too hot.

Keep an eye on the top of either kind of smoker. If there's a steady, moderate flow of warm (but not fiercely hot) smoke, everything's fine. If there's too much smoke, you could have excessive draft and your fish might be cooking too fast. Plugging a few holes on the top of the smoker (if it's an old refrigerator) or adjusting the plywood lid (if it's a drum) will quickly cure this.

Buy A Manufactured Smoker

If the idea of building your own smoker doesn't appeal to you, the simple solution is to buy one of the commercial smokers on the market. Some commercial



models offer an electric starter, which eliminates the need for burning charcoal. You turn on the starter until the hardwood chips catch, then you turn it off. By doing this repeatedly, you can maintain a consistently low fire and a dense flavorful smoke.

Hooded charcoal cookers (such as the "kettle" type) can also be used as a smoker if only a few fish are loaded. Its grill, however, must be high enough or large enough to keep the fish away from the fire.

Many commercial meat smokers are designed to operate with a pan of water between the fire and the grill. This arrangement retains moisture inside the smoker, and also provides a heat barrier to keep fish or other meat from cooking too hot or too fast. However, if your fire gets too enthusiastic, you will wind up with steamed fish.

Firing Up A Home-made Rig

Start your home-made smoker by filling a quart jar with hardwood chips. Hickory works best. Use green chips if possible. If hickory is unavailable oak will do. Add water to the jar until it overflows and screw on a lid to keep the chips from floating. Set them aside for now.

While the wood chips soak, light no more than half-a-dozen charcoal briquettes for the same number of mullet, using either liquid fuel charcoal starter or an electric lighter. Grease each grill by brushing or spraying on cooking oil. Make sure the grills are at least a foot above the tops of the burning coals. It should take about 45 minutes to get ready to smoke. You want your coals to peak (and be on the decline, heat-wise) when you put your fish on.

Preparing the Fish

While waiting for the fire, you can prepare the mullet by removing the heads, cutting forward at an angle from just behind the gills. Then split the fish down both sides of the spine. Remove the backbone with the tail still attached, taking as little meat with it as possible. Discard the entrails.

This leaves you with two connected "butterfly" fillets. I use heavy scissors to cut them apart right down the middle. Halved fish and tailless fish fit into the smoker better than do whole fish, and they don't fill up an entire dinner plate when they are served. Don't use a

A 55-gallon steel drum, if never used to hold hazardous substances, can be made into a smoker. If a metal lid is used, drill vent holes to provide an air flow. A piece of plywood can also be used to regulate the air flow by moving it laterally across the top.

knife to cut through the heavy rib bones. If you do, it won't have a sharp cutting edge the next time you want to use it.

The black membrane which lines the abdominal cavity of mullet can easily be removed by scraping with a knife blade or a scrub brush. And this step is worth the effort because the belly meat beneath the membrane is the choice part of the fish. If you have a large fish to smoke, such as a nice freshwater bass, king mackerel or amberjack, you may choose to steak it, cutting across the body of the fish to make one-inch thick portions.

If the cleaning step bothers you, most seafood markets will take care of it for you for no extra charge. Just be sure and explain what you plan to do with the fish because this does make a difference in how the fish are cleaned.

Put the fish fillets in a bowl, then cover them with a brine solution made of one cup of salt to one gallon of water. Let them soak in the refrigerator until the coals are ready. Then rinse the fish and pat them dry with paper towels. Make a sauce of vegetable oil, paprika, black pepper, hot sauce and whatever else you think might work. Brush the sauce onto the inside surface of the fillets and retain what's left for later use.

When the charcoal turns white to gray in color, separate the briquettes and spread them in a single layer so none are touching, then add half of the drained hickory chips on top of the coals.

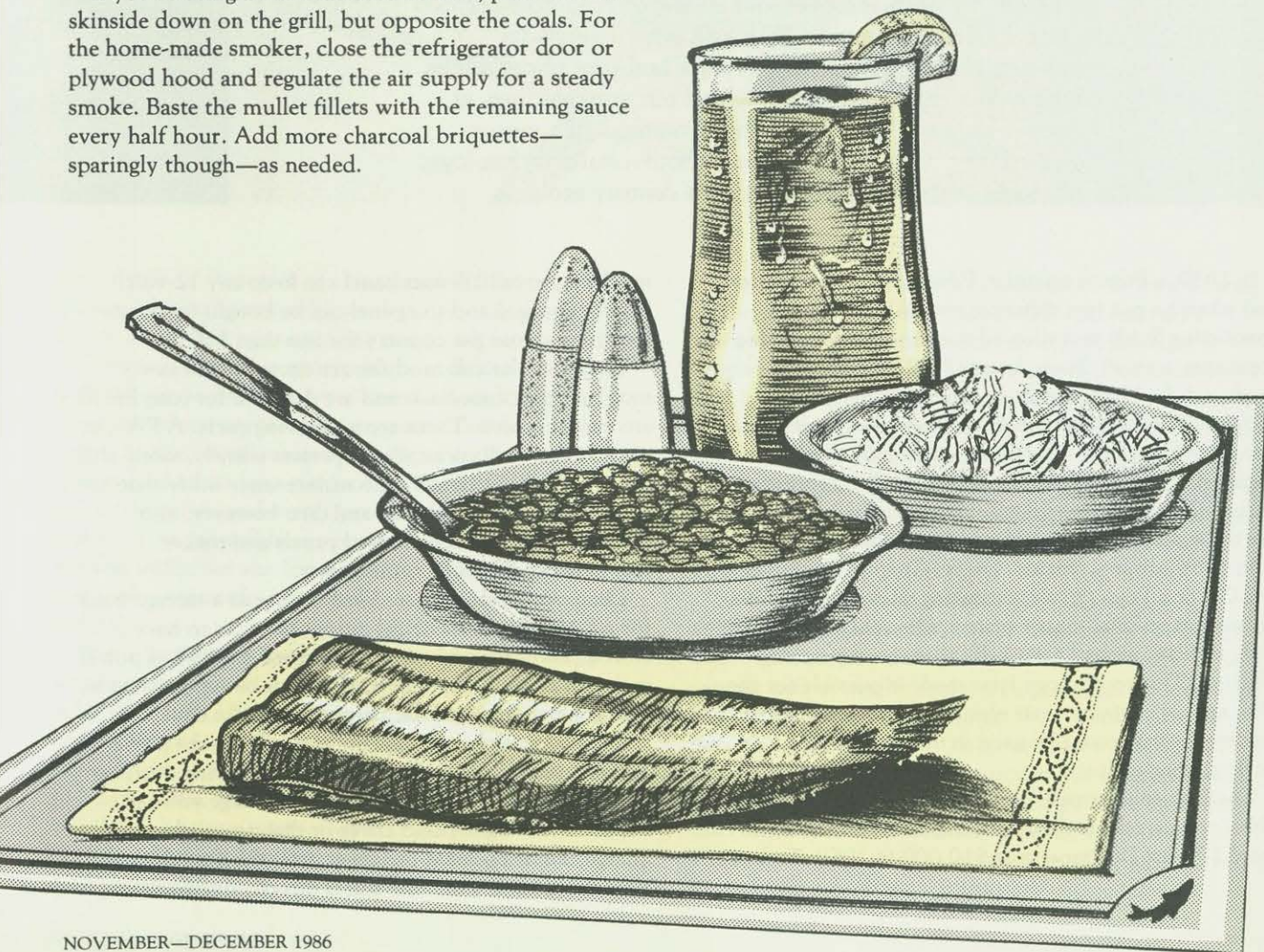
If you're using a manufactured cooker, place the fish skinside down on the grill, but opposite the coals. For the home-made smoker, close the refrigerator door or plywood hood and regulate the air supply for a steady smoke. Baste the mullet fillets with the remaining sauce every half hour. Add more charcoal briquettes—sparingly though—as needed.

Keep the fire as low as possible without letting it burn out. You don't need flaming logs to smoke fish; a low, smoldering fire is what you're after. The hood of your commercial cooker or smoker, plywood hood on your barrel, or top of your refrigerator should never get too hot to touch. If it starts to, cut back on the air flow.

After an hour's smoking, add the second half of the chips. The thickness of the fillets or steaks will determine more specifically how much cooking time is needed. Test the fish with a fork or toothpick for a firm but flaky consistency before serving.

Smoked fish is delicious hot or cold. Cold fish can be reheated in the oven at 350 degrees for 10 minutes prior to serving. Some people insist smoked mullet is better the second time around. Smoked fish is great with hot sauce, lemon juice and crackers, as well as with those old standbys baked beans and slaw. There are any number of other good recipes calling for smoked fish, including some excellent salads and dips.

You make yourself a superior product when you smoke your own. At the same time, you can reduce the cost of a dish which, after a little practice, will reflect your individual taste. It's quality food your friends and neighbors will enjoy with you. ①



SUNSHINE

Power for Outdoor Florida

By Robert T. Epstein

As we eased our two-man pram away from shore, I flicked a switch on its solar-charged electric motor and we cruised away. Quietly, with just the slightest ripple, we let out our diving plugs and began trolling the deep edge of a current-chiseled Florida Bay backwater inlet.

As we trolled and cast for snook, redfish and spotted seatrout, we were treated to a close-up look at a natural botanical garden spotted with herons, roseate spoonbills, anhingas and the Florida Everglades "snake bird" or cormorant. Without even startling the butterflies hanging in profusion on red mangroves, our solar-powered boat allowed us to pass close to gators, turtles and other Everglades creatures, giving us the chance to view and take photographs of them. We enjoyed the wildlife and our surroundings as naturally as possible, but with the advantages of a motor-powered boat. Our boat was using photovoltaics technology, first developed in France more than a century ago.

In 1839, a French scientist, Edward Bequerel, noticed that when he put two different metals in vinegar (a conductive fluid) and allowed the sun to shine on this apparatus, a small direct current (DC) voltage was produced. In 1903, physicist Albert Einstein wrote about solar power and described the "photovoltaic effect." Although it was a phenomenon in its earliest stages of scientific experimentation, Einstein foresaw its potential when he speculated, "Perhaps the world could use the sun for its electrical power needs."

In 1954, three scientists, Darryl Chapin, Cal Fuller and Gordon Pearson, were working to develop a clean, nonpolluting, safe, power system when they came up with a silicon wafer "solar cell" that was 6 percent efficient. This technology later made it possible for the U.S. space program to use electrically powered equipment that could be used in the zero-oxygen environment of space.

The first solar panels were constructed of series of photovoltaic cells and cost thousands of dollars each. A mere 10-watt DC panel cost \$10,000 in 1959. Today, a

much improved 10-watt panel can keep any 12-volt battery charged and the panel can be bought in many locations across the country for less than \$200.

Today's solar cell modules are encapsulated in a moisture-proof medium and are designed for long life in any environment. There are no moving parts. A P.V., as photovoltaic cells are called, operates silently, safely and cleanly. There is virtually no maintenance other than an occasional wipe off of dust and dirt; however, rain intermittently washes exposed panels and makes maintenance generally unnecessary.

Deep-cycle batteries are ideal for use as a storage bank for a P.V. panel's electrical output in order to have stored power for nighttime or daytime use. When power is drawn from the battery bank, it can be replenished by sunlight striking the solar panels during the day.

Even if it's a cloudy day, the sun still has the power to energize your solar panels, although in varying degrees. The heavier the cloud cover, the less charge you can expect. From light cloud cover or direct sunlight, a full charge can be counted on. Of course, the best charging time available is when the sun is directly overhead. A





general rule of thumb in the Northeast is to expect an average of four hours usable sunlight per day. In the South, about five hours per day can be expected.

Camping out is an activity which lends itself especially well to solar power. You won't need a noisy, smelly generator if you use one or more solar-electric P.V. panels banked with one or more batteries. Solar power can be used to energize outdoor fluorescent DC lights, DC refrigeration and even a portable TV-radio-cassette system. You can still have your campfire, but if you want to utilize the sun for cooking, a simple solar oven can cook a casserole, bake bread, roast a turkey or grill a hot dog.

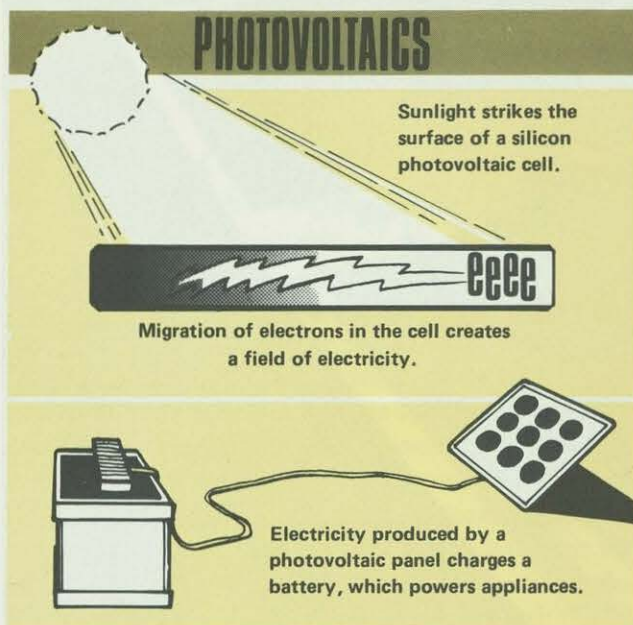
The following are examples of items available today which work on solar-produced electricity (typically 12 volts DC): high efficiency lighting for outdoors, in a tent or in a camper, pumps for drawing water from a lake or stream right to your campsite, fans for ventilation, AM-FM tape decks, color TVs, hair dryers, rotary shavers, blenders, slide projectors, toasters, coffee makers, popcorn poppers, broilers, fry pans, ice makers and even insect zappers.

Many sportsmen today have access to or own a cabin in the woods. They may haul in fuel and start up a gas-powered generator to provide electricity. Sure it works, but what do they have? A piece of equipment that is not geared to what many go into the countryside to escape from—city noise and air pollution. Generators are dependent on gas and cost money to operate. They also require general, and sometimes intensive, mechanical maintenance. But, with one or more solar panels on the roof, there is no sound, no smell and no maintenance. And the sun does it free!

Solar-electric panels are also an excellent power source for RV users. How many times have you parked your rig in a quiet, deserted area and had another camper pull in nearby and start a generator? It surely shattered your peace and quiet. With a solar panel or two, that isn't necessary. There are many federal and state parks where fuel generators are no longer allowed. If they do allow them, there is a curfew time on their use. There are several reasons for this. They disturb sleeping campers, they have an undesirable exhaust and ▷

they are a potential source of carbon monoxide poisoning. They simply are not compatible with nature. They disturb the peace and dignity of our wild habitats.

This is not to condemn fuel generators entirely—they do have a place. Sometimes the sun does not shine, and for certain emergency uses they are desirable. However, they are much more powerful than necessary for the average vacationer or camper and are not particularly efficient for general weekend use. It currently costs perhaps \$2.35 to run a typical fuel generator for one hour compared to about 35 cents an hour to run a solar electric apparatus. That includes the cost of the panels over years of use.



Solar panels require no maintenance because they are solid state. Most panels available on the market today carry a 10-year warranty. They can last 20 or more years. Some have been tested under accelerated conditions, and computer predictions based on these tests show a 49-year life expectancy for some.

In the past, there have been major drawbacks to the use of electric trolling motors, such as the necessity for recharging the batteries. Lead-acid batteries are heavy and difficult items to remove from a boat for recharging. Taking this into account, trolling boaters once found that extended trips made it necessary to include extra storage batteries or use a small supplementary gasoline engine.

Photovoltaic modules designed for electric trolling motors can effectively eliminate these problems. Using sunlight, the modules quietly charge the battery all day long. Cruising ranges for electric boat kits vary significantly with the type of boat and motor. In a test using a Coleman Scanoe (square-ended canoe) and a Shakespeare 12-pound-thrust electric trolling motor, the range was approximately nine to 10 hours at full speed, or about 20 hours at medium speed. Trolling speed gave approximately 30 to 35 hours of continuous running. These figures assume loading with two persons, normal

fishing and camping gear and no sunlight.

On this rig, the high speed was faster than could be sustained by two paddlers, while the trolling speed was ideal for game fishing. The Shakespeare/Scanoe combination drew about 22 amps on high speed start, and about 16 amps running. Medium speed was about 11 amps starting and 8 amps running.

I also tried a Coleman Crawdad with a 15-pound-thrust electric motor and used this combination with my fishing partner. Even venturing into Florida Bay, I found two solar panels could keep two 12-volt deep-cycle batteries charged and allow for eight hours of high speed and approximately 24 hours of continuous trolling. We had a complete weekend of fishing, but never smelled any exhaust fumes from our boat. We had power to spare, spent nothing on fuel and did we catch fish! They never heard us coming.

A point to remember is that photovoltaic cells in the modules are wired in a series and shading of any portion of the modules will significantly reduce output. Therefore, while recharging, the module should be in full sun. Two modules will produce up to 30 amp hours of charging during the summer on a clear day and progressively less toward winter months, due to the lower sun angle. Enough energy is often provided for "weekenders," however, by only one module charging all week long. However, two 220 amp hour batteries are recommended to increase battery efficiency and give reasonable cruising range. A voltage regulator used with this type of system will significantly extend battery life by preventing overcharging.

When fishing in Florida Bay, we like to tip our jigs with shrimp and also cast live shrimp with popping corks. Sure, we could use a troll bucket to keep the shrimp alive, but when you have free sun power, you can also use it to aerate a baitwell. We took along a Bait Keeper bucket with a 12-volt aerator and kept two or three dozen shrimp lively all day long. Even our portable radio had solar-charged batteries. Nickle-cadmium (Ni-Cad) batteries can be purchased in many sizes and they can be recharged with a simple "solar connection." Rechargeable batteries can be plugged into a solar panel with an adapter. You can also plug them into any auto or boat cigarette lighter to charge them.

For the sailboater, nothing beats solar electricity as a power source. One main reason a sailor invests in a sailboat is to cruise quietly with no fuel, noise or exhaust smell. Photovoltaics fit right in with the life-style of a sailboater. While sitting at anchorage in a quiet cove, his batteries can be quietly charged to power communications equipment, lighting, refrigeration and many other amenities available for 12-volt systems. And, if you use an inverter, you can convert 12-volt DC to 120-volt AC. A microwave oven can then be operated from solar power, as well as regular AC power tools and equipment.

As sportsmen, we can take the opportunity to use our sun for pleasure and power. Here in Florida we are lucky to have an abundance of sunshine to use to our advantage. ❶



Mockingbird juveniles

Birding With a Camera

Text and Photographs
By John Waters Jr.



bird photography is a pleasant activity which can be enjoyed most any day of the year throughout Florida, but during fall and spring migrations, you'll see more species. This outdoor activity can be approached seriously, or just for fun, depending on your equipment, available time and determination. Birds can be captured on film in yards, parks, refuges, city lots and country meadows. With the right set-up, you may not even have to leave your house.

Some years ago, I had a unique opportunity to get within two feet of a mockingbird nest and her tiny hatchlings when she nested in a shrub growing just outside my living room window. All that was needed was to block out the window, except for a small, well cleaned, clear spot for the camera lens. Tinfoil and masking tape quickly and effectively converted the living room into an observation blind that was comfortable as well as functional. ▷



Carolina wren



Male Northern cardinal



Photographing birds requires minimal equipment if you use a blind to get close. Extension rings allow closer focusing, and a high-output strobe light helps get sharp images, even in lower light levels. A tripod steadies the camera.

Over the next couple of weeks, I was able to take pictures of the nestlings, their feeding activities and rapid feathering out as they became fledglings. The camera was so close to them I could literally look down their vivid yellow throats as the female stuffed them with juicy grasshoppers or hairy caterpillars. A normal camera lens with an inexpensive close-up attachment was all that was needed in the way of optics.

Although outstanding results are possible with minimal equipment, much more can be done if you have an assortment of lenses, a battery-powered high-output electronic flash and a tripod. It also helps to have a portable blind which can be carried easily in the field and set up quickly. The blind, of course, can also be used to get close to more than birds.

Generally, for 35mm cameras, lenses in the 200mm to 400mm focal lengths will provide the greatest use for a variety of large and small wildlife species. Modern lenses which have "macro" focusing capability are the best, but are usually a more expensive choice. Equal results can be obtained from older style lenses which do not focus as closely to the subject, provided you also have accessory close-up lenses or extension rings to fit with them. Although long lenses are popular because they *seem* to bring distant objects closer, there is no substitute for getting close enough to focus from a few feet away with the shorter lenses—especially when photographing small birds.

That's where the blind comes in handy. You can hide inside with your tripod-mounted camera and wait for birds to come close. Some species are rather active little creatures, and are easy to get close to by using this simple technique. One of my favorite places to set up a blind is three or four feet from the bird feeder in my back yard. The

blind I use is a simple, inexpensive frame made from two lengths of "EMT" (electrical wiring conduit)—each cut in half to make four legs—and 18 feet of 1/8-inch or heavier galvanized wire cut and bent to form a rectangle atop the EMT legs. A box-shaped cover, made from six yards of 48 inch wide common burlap, fits over the simple frame. Two people and their gear can fit inside comfortably, with room to spare for a couple of folding stools.

This same blind has worked well when it was set up along the brushy edge of a pond. The light-brown color of the burlap blends in well with the bunchgrasses and cattails which grow around my favorite one. Last winter, I was able to take photographs of blue- and green-winged teal, mallards, widgeons, redheads and other ducks, as well as photographs of several species of herons and egrets, by setting up the blind in several different aquatic habitats. I also had a "bird's-eye" view, face to face, with a rather large alligator when it unexpectedly popped up a few feet away from below the duckweed which covered the pond's surface.

Other materials can be used to make a blind, but in my experience, burlap is one of the best. It is loosely woven, which allows air to flow through the blind and lets me see outside, as well as breathe. Materials which do not have a loose weave, such as canvas, do not have these advantages. The disadvantage is that burlap can make it easy for the birds to see you too. If they can see you inside, as will easily be possible if you are backlit, they may be afraid to come close. Usually, though, if you set up where there will be some dense grasses or other vegetation behind and alongside the blind, this won't be a problem.

The keys to successful photography from a blind are putting it where birds are likely to congregate or visit and making it blend in with the natural vegetation as best you can.



Carolina chickadee

Bird photography is a sport and an art. The season is always open in Florida.

Birds do, however, sense changes to an environment they have become familiar with and sometimes they will shy away from a blind when it is first set up. In some cases, it may take several days for them to get over the change. For this reason, if you can set up your blind and leave it in place for a while, you will probably have better chances.

The electronic flash is a very desirable piece of equipment—especially for distances of less than about six feet—for several reasons. First, it makes it possible to get

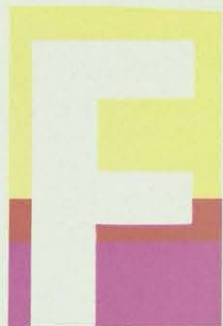
close-ups with more of the subject in focus when using slow films. It can also make it possible to take pictures even in low light levels such as dawn and dusk. When photographing cardinals at my backyard feeder, I was able to take flash photographs on an ASA 64 film that otherwise could not have been taken.

Being late feeders, the cardinals approached the feeder when the natural light was so low I was having to use a shutter speed of 1/8 to 1/2 second, with the lens aperture at its most open setting, f4. Nevertheless, I took a few 35mm slides anyway. All of them were blurred and worthless. Every time the shutter clicked the birds jumped or flew. However, by using a strobe light on my next attempt, the birds appeared still and were very sharp on film, even though they continued to jump and fly at every shutter click. The big difference is that the strobe I used had a 1/500-second duration, so there was no apparent movement in the pictures.

With these basic techniques and the right equipment, wildlife photography becomes easier and more successful. There still remains, of course, the skill of focusing and framing, and most importantly, the sense of *just when to press the shutter*. These are the elements that make wildlife photography a sport, as well as an art. And the season in Florida is always open to photographers. ①

PEACOCK BASS

By Paige Moody
Photographs By Paul Shafland



lashes of bronze, gold and orange glint in the sunlight as a Florida angler plays an odd-colored bass towards his boat. As the fish tires and gives up the fight, the fisherman readies a landing net to haul in one of the world's most magnificent and colorful game fish.

Florida bass anglers may be skeptical of such a scenario, because, after all, who ever heard of an *orange-colored bass*? Actually, vividly colored peacock bass (*Cichla* spp.) previously have been available only to those with bank accounts substantial enough to finance fishing trips to South America. However, if the Commission's current progress continues, Dade County may one day be home to a fishable population of peacock bass.

Paul Shafland, director of the Commission's Non-Native Fisheries Laboratory in Boca Raton, hopes to attain this goal through a research project begun in 1982. Peacock bass were imported from Brazil, Peru, Guyana and Texas (where a similar project was located). Fingerlings just one to three inches long were studied as they matured in breeding ponds at the research laboratory. In October 1984, the first 1,000 peacock bass were released into a canal system in Dade County.

Pavon (which means "peacock" in Spanish), *tucunare* and *lukani* are all names for peacock bass. Highly rated as sport fish, peacocks are very similar, both in body shape and fighting spirit, to one of Florida's favorite freshwater fish, the largemouth bass. The most notable difference, of course, is a vivid coloration and a distinctive black "peacock eye" on the tail of both species, giving them the Americanized name "peacock bass."

There are two types of peacock bass: butterfly (*C. ocellaris*) and speckled (*C. temensis*). Both are being stocked in the project. However, because of certain



maturation characteristics, a larger population of butterfly peacock bass is expected. Although the speckled type is ultimately more of a trophy fish, reaching weights in excess of 20 pounds, sexual maturity takes two to three years. In contrast, butterfly peacock bass can reproduce in a year, but their maximum weight is less than 10 pounds. A shared characteristic of both species is their need for warm waters for survival. The South American natives can exist only in temperatures

COME TO FLORIDA



The butterfly peacock bass is one of two species recently stocked in Dade County canals. Note the three dark vertical bars of the juveniles (*left photo*) and the "eye spot" on the tail of both the juveniles and the mature fish (*right photo*).

above 60 degrees F.

According to Shafland, initially there was concern about peacock bass weathering the south Florida winters because of water temperature fluctuations in the canals. However, losing a few fish to cold water could be a benefit.

"The Biscayne Aquifer flows from west to east in this area of Dade County, and the groundwater enters the canals and modifies the temperature just enough so that

fish should survive winter well enough to maintain a healthy population," Shafland says. "With any stocking project, it's essential to have some control over the population, and winter temperatures and salinity in these canals provide us with two natural controls."

Like largemouth bass, peacock bass have a low tolerance to salt water, which virtually eliminates any possibility of problems arising from peacock bass that may find their way to the ocean. ▽



The speckled peacock bass (*above left*), like the butterfly peacock bass, has an "eye spot" on the tail, but the butterfly peacock bass lacks dark markings on the gill cover (opercula) (*above right*). Both species must be returned immediately to the water if caught. This will ensure a viable peacock bass fishery in Dade County canals in the future.

Anglers who are concerned about possible adverse effects from introduction of these exotic species can relax. Intense studies have documented the need for increased predation in the Dade County canal system. The spotted tilapia, another exotic which is established there, reproduces year-round, providing a plentiful food supply—too plentiful, in fact, for the existing predator fish population to fully utilize. Integrating peacock bass will utilize the overly abundant tilapia as food.

"The canals contain plenty of fish, but until now, tilapia have been under-utilized by predator species and



The juvenile speckled peacock bass (upper fish) has distinct rows of white "dashes" and "speckles" over the body and tail, and three indistinct dark vertical bars along the sides. Mature peacocks (lower fish) lack these white markings. Both juveniles and adults have black markings on the gill cover (opercula).

Shafland noted. He emphasized the importance to the success of the stocking project for any peacock bass caught to be immediately returned alive to the water.

"Cooperation from anglers in releasing peacock bass will make the difference between this project taking two to three years for success, or four to six years," Shafland says.

Shafland also noted that many anglers who fish in the Dade County canals are not aware of the stocking project, and that it is important to help spread the word that peacock bass must be returned to the water when caught.

Some problems stem from a species sometimes confused with peacock bass, the oscar (*Astronotus ocellatus*), an exotic fish, often kept in aquariums, which is not related to peacock bass. Oscars have occupied south Florida canals for the last 25 years and have been locally nicknamed "peacock bass." However, the only resemblance between them is the spot on the tail. Their many differing characteristics should make it easy to discriminate between them. The main difference for fishermen to remember is that oscars are legal to take but peacock bass are not.

If you catch a speckled or butterfly peacock bass, admire it, but release it immediately. In doing so, you're making an investment in the future that will increase your chances of one day having a South American bass encounter without ever leaving Florida. ⑦



The oscar also has a spot on the tail, but this species can be kept.

man," notes Shafland. "By introducing peacock bass, we're making the environment more beneficial for both. As long as there's an adequate food supply, which there definitely is now, largemouth bass and peacock bass should coexist with no problems."

Satisfied with the knowledge that two potential problems—water temperature and food supply—have solved themselves, Shafland's main concern now is man. Uncooperative or uninformed anglers could ruin or, at least, delay a successful stocking project.

"Even with the success we've experienced during the last two years, these things take time. If plans go according to schedule, we should be able to open up limited fishing in two to three years," Shafland says.

At this time, keeping any peacock bass is illegal,



BASS'N GAL

HITS TOLEDO BEND

Text and Photographs

By Carolee Boyles-Sprenkel



S ara Johnson was getting frantic. She was 700 miles from home, and her brand new depth finder wasn't working. The unit was so new on the market that the local electronics repair shop didn't have the schematic or even a power cord for it, and couldn't work on it. Johnson made a desperate telephone call to a service representative she knew and pleaded with him to ship another depth finder as quickly as possible.

It was Monday, July 14, the first practice day for the Bass'n Gal Tournament of Champions, one of the organization's most prestigious national tournaments. This is an intense two-day affair held annually on one of the country's top bassing lakes. This year's tournament, which took place July 17 and 18, was held on Toledo Bend, a premier lake on the Texas-Louisiana state line.

Three Florida Bass'n Gal affiliate clubs sent teams to the Tournament of Champions. The Talquin Hookers, based on Lake Talquin, were represented by Johnson from Tallahassee, Ginger Albritton and Bonnie Jones from Quincy, and Lonnie Walsh from Havana. Miriam Donohoo and Judy Coggin of San Mateo, Nola Selfridge of Palatka, and Delores Goodson of Satsuma represented Bass Capital Bass'n Babes. And from South Florida Bass'n Gal came Celia Vance, Anne Nesbitt, and Margaret McElroy, all of Clewiston, and Shirleen Yetter from Fort Lauderdale. To earn a place on each club's team, the members competed in last year's affiliate club tournaments. Team berths went to the four women who placed highest for the year in each club.

The Tournament of Champions is fiercely competitive. These women are *serious* about their

fishing. To get to the tournament, teams may travel more than a thousand miles. Besides bringing members'

fishing tackle and other gear, each team must also bring two boats, and pay a \$100 entry fee.

All this fervor becomes comprehensible when you see what awaits the winning team. First place takes home a Ranger bass boat with outboard and trolling motors plus electronic equipment: the whole package is valued at more than \$18,000. In most cases, the clubs whose teams have won elect to sell the boat. The proceeds from such a sale can keep a club financially solvent for years. Second place takes 30 percent of the entry fees collected and third place wins 20 percent of the entry fees. In addition, the team that weighs in the largest fish during the tournament receives 10 percent of the entry fees.

In past years, Florida teams have done well in the Tournament of Champions. In 1981, Orange Park's North Florida Bass'n Gal team placed third, and the Talquin Hookers won the boat.

1983, though, was really the year. The Heart of Florida team, from the Winter Haven area, took home the boat. North Florida Bass'n Gal placed second. Bass Capital Bass'n Babes took third. The Sunshine State Bass'n Gal team took fourth. Fifth place was won by the Talquin Hookers and South Florida Bass'n Gal came in seventh.

Bass'n Gal requires that anglers keep fish alive during the tournament so they can be returned to the lake after weigh-in. In addition, Bass'n Gal limits are strict: only five bass can be weighed in each day and the fish must



be at least 12 inches long.

Toledo Bend appears much like north Florida's Lake Talquin. It has a plethora of underwater stumps and standing dead trees. But you could drop half a dozen Lake Talquins into Toledo Bend with scarcely a ripple. Toledo Bend is *big*.

The lake was off limits to tournament participants for two weeks prior to the event. However, practice fishing was permitted the three days immediately preceding the tournament, July 14, 15 and 16. On the evening of the 16th, boaters were paired by random draws. The women were not permitted to fish with members of their own team or any other team from the same state.

By Wednesday evening, Johnson's borrowed depth finder had arrived from the manufacturer. The tension in the air was almost palpable as the partners and boat numbers were announced and the women found out who they would be fishing with the first day.

On Thursday morning, preparations began early. Boat check was at 5:30 a.m., with the first launch leaving at 6:00. Nerves were stretched taut as the women loaded their gear into the boats. One boat had a delayed start because of mechanical problems, but got off within a few minutes. At noon, another boat came in under tow, but a manufacturer's engine representative was on hand, and he made the necessary repairs.

At 3:00 that afternoon, the first competitors checked back in. For the next hour, exhausted women carried plastic bags of shiny, squirming fish to the dock to be weighed and placed in a large aerated tank until the next day.

When all the fish had been checked in, the Florida teams were clustered. The Bass Capital team was in ninth place with 11 pounds, eight ounces. Tenth was South Florida Bass'n Gal with 10 pounds, 15 ounces and Talquin trailed in eleventh with 10 pounds, 12 ounces. The first two teams were way ahead with more than 20 pounds each. To come "into the money," all three Florida teams would have to fish hard.

Friday was not a good day for two of the Florida

teams. South Florida women had trouble catching any fish and they finished way back in the pack. Two of the Talquin women didn't catch any fish at all! The team moved up one place to finish tenth with 22 pounds and three ounces of fish. Bass Capital Bass'n Babes had a good day, though. They caught enough fish to overtake all but three teams, and wound up finishing fourth, with 37 pounds, five ounces of fish.

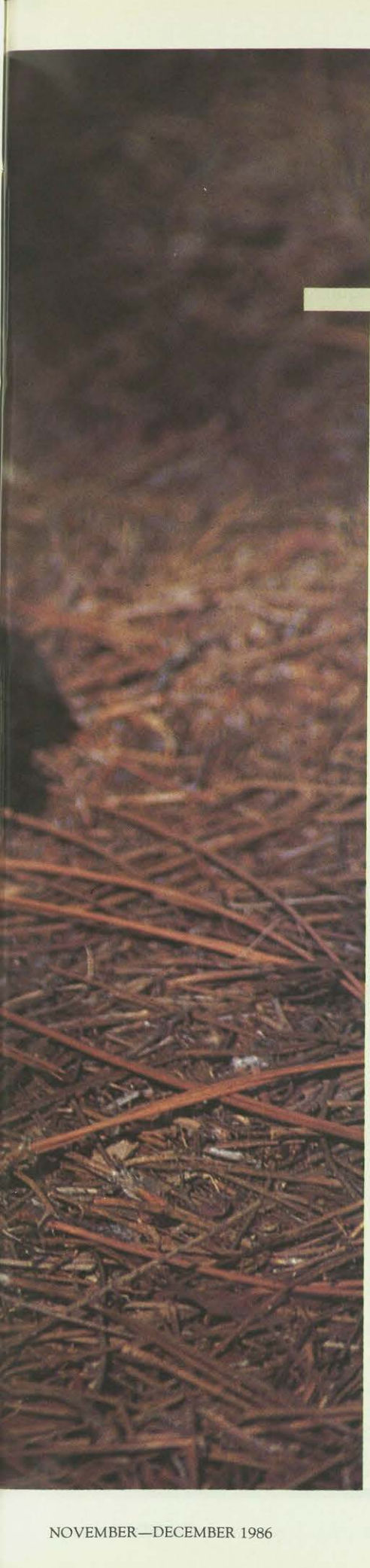
One member of the Talquin Hookers had a good day Friday. Fishing with a blue and white Citation willow leaf spinner bait, Lonnie Walsh caught a four pound, 13 ounce fish which tied for *big bass* that day. That one fish won Walsh almost \$400.

And the boat? That went to the Houston team, F.I.S.H.—which stands for Femmes in Search of Hawgs. But the Florida women are not discouraged. After all, there's always next year. 🐟



Florida angler Lonnie Walsh (left) of Havana, Florida shared the "big bass" honors the second day with Shirley Richardson (right) of Ohio. Tournament official Bob Ferris announced the winners.





Habitat Management for Gray Squirrels

By Perry Oldenburg and Neal Eichholz

During the 1984-85 hunting season, an estimated 662,743 squirrels were harvested by approximately 96,842 hunters. Although squirrels are popular small game animals with many hunters, there has been a general decline in both the number of hunters and the number of squirrels in Florida. This decline is probably due to a reduction of quality squirrel habitat. One viable way to stem this decline is to better manage our forestlands for squirrels.

The Eastern gray squirrel and Eastern fox squirrel are legal to take during 1986-87 from November 15 through March 8 in Florida. However, it is illegal to take the threatened mangrove or Everglades fox squirrel, a variety found only in south Florida, at any time. Gray squirrels and fox squirrels have different habitat and food requirements, so different forestry management techniques are used when managing for these two squirrel species. In this issue, we will explain how you can increase the population of gray squirrels in a forest habitat. In the January-February 1987 issue we will tell you about fox squirrel management.

Gray Squirrels

Gray squirrels are opportunistic feeders, relying on a variety of seasonal food resources as these become available through the year. In late summer through fall and winter, acorns and other nuts become the gray squirrel's primary food source. As these nuts become more scarce in early spring, gray squirrels feed on berries, fungi, red maple seeds and the buds and flowers of various hardwood trees. Insects, insect larvae and occasional bird eggs supplement their main diet.

Hardwood trees provide a food type known as "mast" (nuts, acorns, berries, etc.) which

is utilized by gray squirrels, however, some hardwood species produce more and better quality mast than others. Oaks, hickories, cabbage palms, gums, magnolia and beech are some of the best mast producers. Although not dependent on them, gray squirrels readily eat pine seeds, especially in summer when other foods are scarce and in habitats where hardwoods don't grow or have been eliminated. One of every three to four years has practically no acorns produced and then pine cones become an important food source. Mature cone-bearing pines are best for producing ▷

squirrel food.

Gray squirrels nest in cavities and build leaf nests on the branches of trees. Older, larger trees are the main source of suitable cavities. To effectively manage forestland for gray squirrels, the manager should strive to have at least one or two cavity trees per acre. These hardwood trees should not be isolated by clear-cuts, but instead, should be surrounded by mast-producing trees.

Gray squirrels are highly arboreal, which means they spend most of their lives in trees. Although they prefer to scamper from tree to tree, they often feed and forage on the ground for mushrooms and various other items. They tend to avoid large clear-cuts and other large openings which lack cover. Due to their vulnerability to predatory birds and mammals, gray squirrels often forage along forest edges, but rarely more

than 30 yards from these edges.

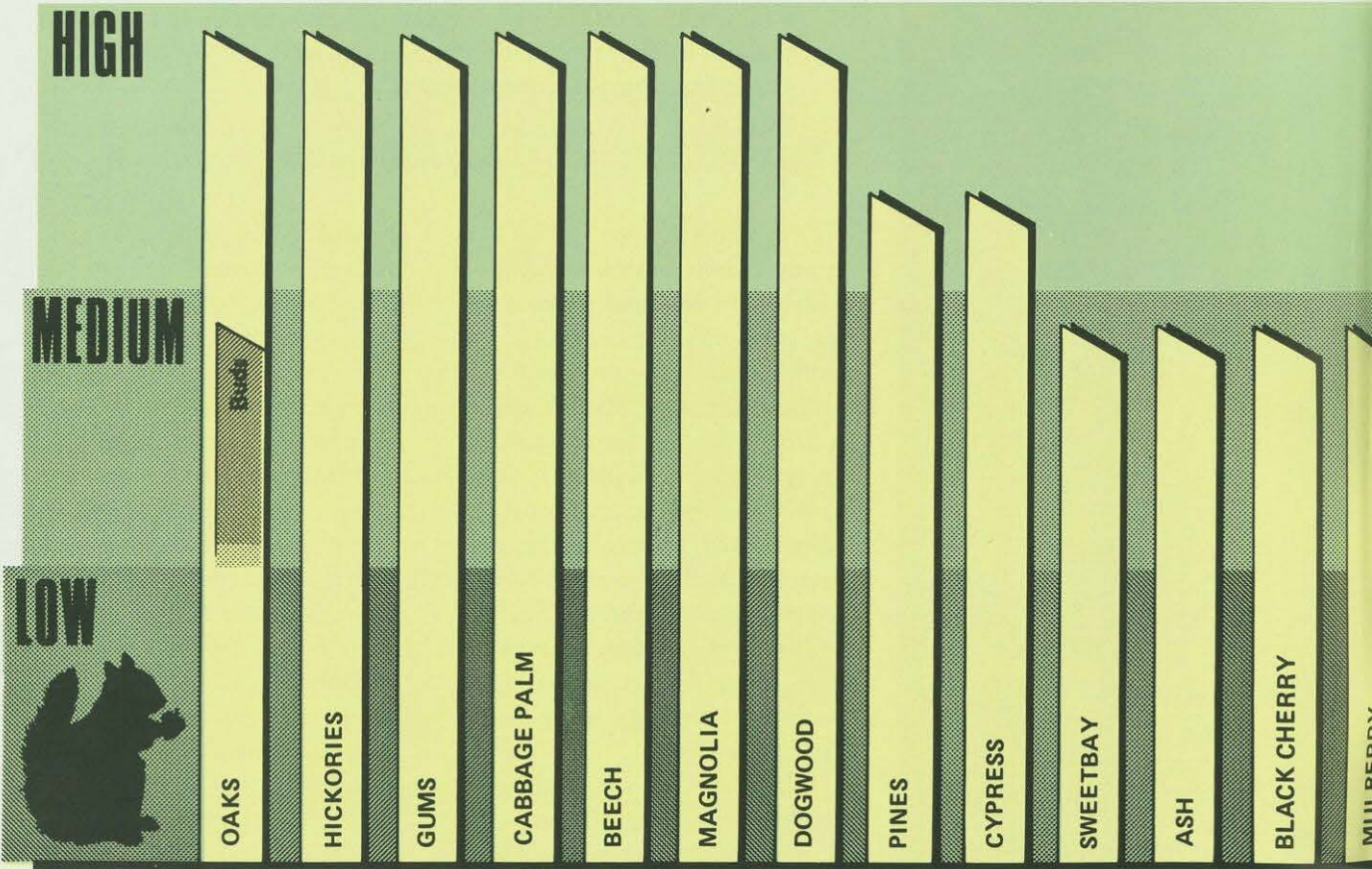
The key to managing a forest for a peak gray squirrel population is to maintain a good stand of mature hardwoods. Generally, if the squirrels are to be hunted, hardwood stands should be greater than 20 acres and be adjacent to more extensive forestland. Hardwood forests and mixed pine-hardwood forests can usually support at least one gray squirrel per acre. Hammocks, bottomland hardwood forests and upland hardwood forests with more mature mast-producing trees often support more than one squirrel per acre. If you wish to manage an area for gray squirrels, you should avoid cutting the mature mast-producing trees or trees which have cavities. Even dead or dying trees benefit squirrels as they are more prone to have cavities which have been excavated by insects, woodpeckers or other

squirrels.

When managing forests for gray squirrels, remember that gray squirrels avoid moving across large open areas such as new clear-cuts. Connecting isolated hardwood stands with hardwood or pine-hardwood corridors will allow gray squirrels to move between these stands and will also reduce losses which are due to predation. If a corridor is 75 to 125 feet wide, it will only be of marginal habitat value to gray squirrels. Wider stands (at least 150 feet) provide much better squirrel habitat, while also serving as corridors. Hardwood stands of 300 feet or greater width are recommended for producing large, huntable populations of gray squirrels. Such wider and larger connecting timber stands are also more suitable for other game species including deer and wild turkey.

If hardwood forests are maintained along streams, rivers

Florida Mast-Producing Trees and Their Relative Food Value



or lakes, they also serve as streamside management zones. Some of the best gray squirrel habitat is found in the bottomland flood plain forests of streams and rivers. In addition to being excellent squirrel habitat, streamside management zones protect water quality by preventing soil erosion.

Streamside forests are utilized by many other kinds of wildlife. Numerous songbirds, woodpeckers, hawks and owls frequent hardwood forests along streams and in wetlands. Streamside forests are preferred environments for such small mammals as the raccoon, opossum and flying squirrel and for many species of reptiles and amphibians common in Florida. Wide streamside management zones provide more of this prime wildlife habitat than do narrow ones.



Perry Oldenburg-Photograph

To Improve Forests for Gray Squirrels:

 Preserve mature hardwoods, especially mast producers such as oaks, hickories, dogwoods and maples. Habitat quality increases with the number of mature hardwoods growing on a tract.

 Leave a wide variety of tree species to provide seasonal foods. Understory varieties such as dogwood, mulberry and ironwood add year-round foods.

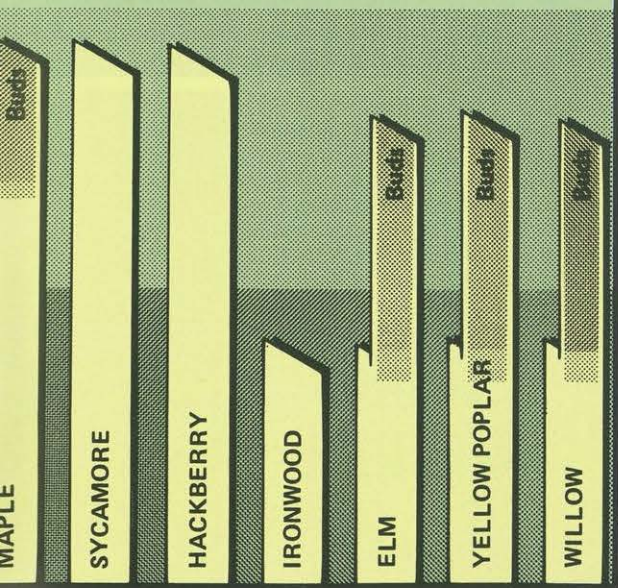
 Leave dead and dying trees which can provide cavities for nests and security.

 Leave corridors (connected strips) of trees—especially hardwoods connecting adjacent forested areas—to facilitate squirrel movement between more extensive timber stands without unnecessary exposure to predators.

 Corridors should be at least 150 feet wide. A width of 300 feet is preferred for providing habitat for larger wildlife species such as deer and wild turkey.

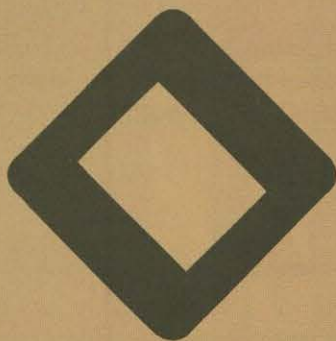
 Preserve all trees growing along streams, ponds, lakes and wetlands. Generally, the wider the forested zone, the better the habitat is for wildlife.

 In order to sustain hunting, maintain a minimum of 20 acres of hardwoods. Consult a wildlife biologist to determine acceptable harvest levels. 





FIRST PLACE, Barry Mansell
Jumping spider



**FLORIDA WILDLIFE
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**Other
Wildlife**



SECOND PLACE, Barry Mansell
Ornate chorus frog



THIRD PLACE, John H. Flower
Peacock butterfly

HONORABLE MENTION,
Dana C. Bryan
Green tree frog



HONORABLE MENTION,
Peter D. Stiling
Tiger swallowtail butterfly

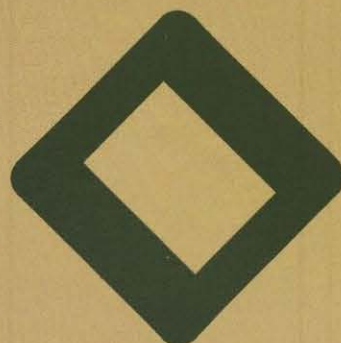


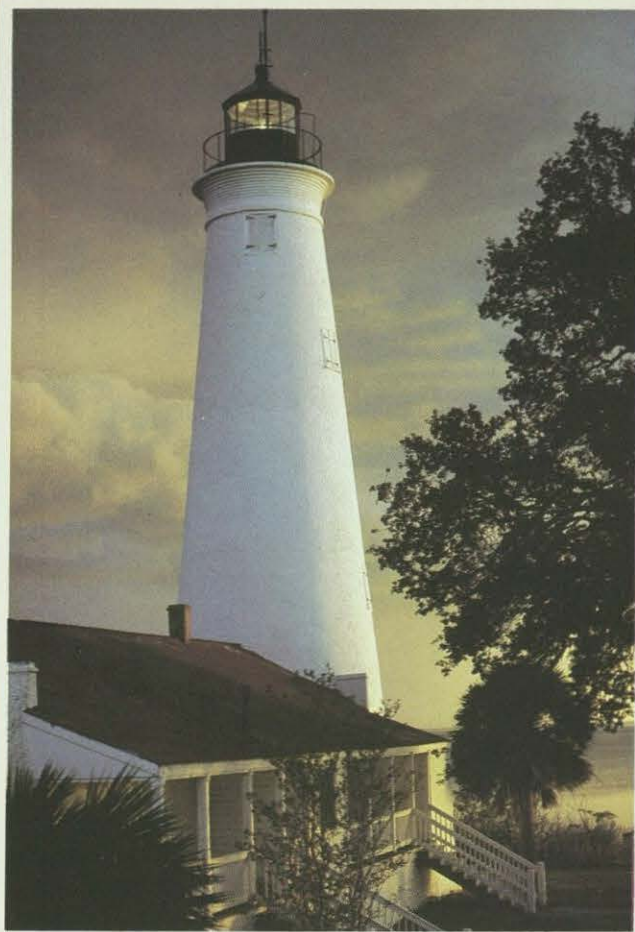


FIRST PLACE, Wayne Wallace

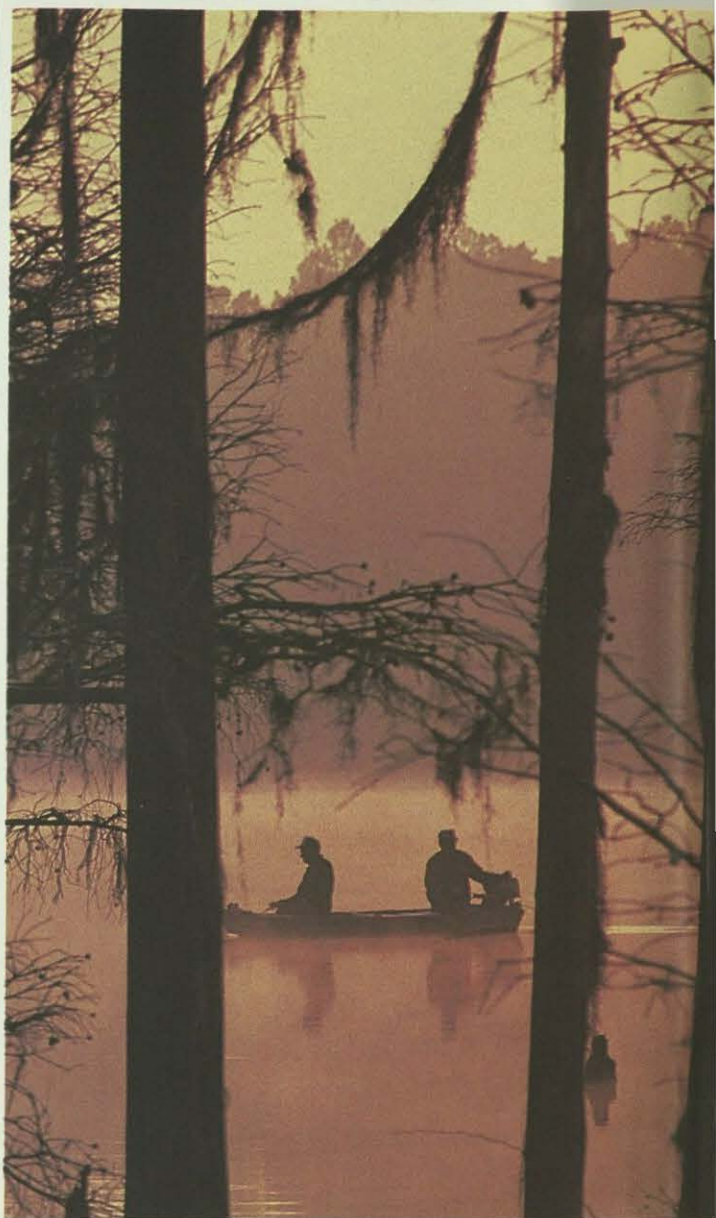
**Natural
Environment**

**FLORIDA WILDLIFE
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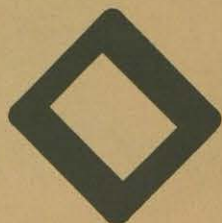


SECOND PLACE, Dana C. Bryan

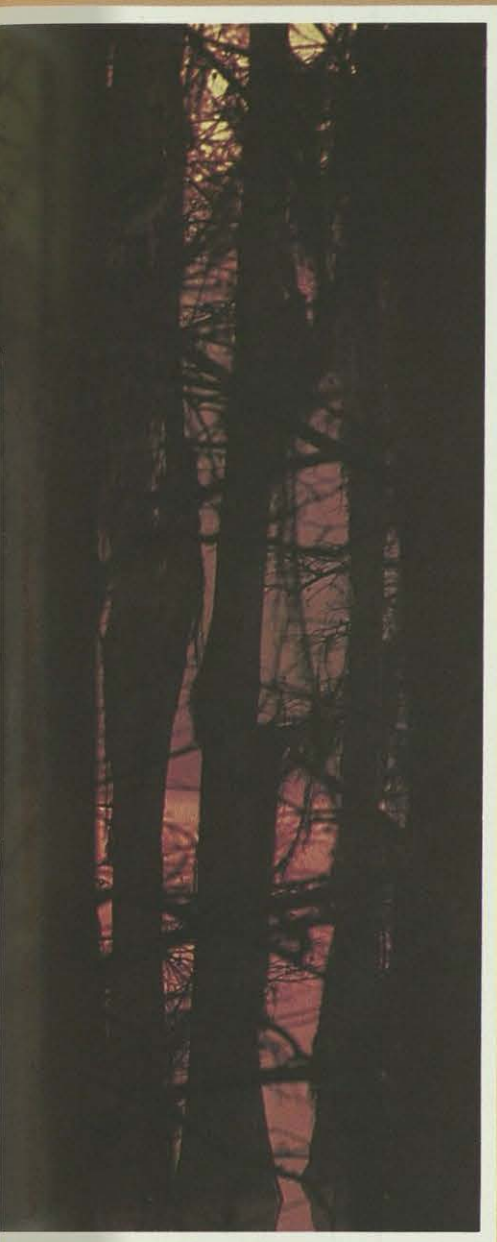


THIRD PLACE, Willis Terry Bird

See the January-February 1987 **FLORIDA WILDLIFE** for rules and entry forms for the upcoming 1987 wildlife photography contest.



FLORIDA WILDLIFE PHOTOGRAPHY CONTEST 1986



HONORABLE MENTION, R.L. Tison Jr.

HONORABLE MENTION, Wayne Wallace



DUCK HUNTING ON THE BIG "O"

South Florida's Sprawling Lake Okeechobee Has the
State's Most Consistently Good Public Duck Hunting

Text and Photographs
By Bob McNally

M

ost sportsmen heading to south Florida this fall and winter will be intent on fishing. Bright sunshine, warm water and mild weather attract hoards of anglers to Florida, but the state also hosts a significant percentage of the annual wintering



Atlantic Flyway duck population.

Although there are hundreds of Florida lakes, rivers, marshes and swamps which offer top-notch waterfowl hunting year-in and year-out, the most consistently good public duck shooting in the state is

found on Lake Okeechobee. This is the same south Florida lake that provides thousands of anglers with some of the best largemouth bass fishing in America.

The first time I hunted ducks on Okeechobee was during a December

bass trip. My dad, Tom, and I fished a couple days from my bass boat out of the town of Okeechobee, on the lake's north side. We'd been getting bass early every morning in the Indian Prairie Canal area. The bass were well up in the labyrinth of ▷



"cuts" that wound along the lake's shoreline bulrushes and cattails, and once we ran the boat into the bulrushes we couldn't see the open lake. What we didn't know was that thousands of ducks, mostly ring-necks, were rafted on Okeechobee's open waters. But on a windy Saturday morning, we learned fast about those birds.

Even before we launched the Ranger we heard gun shots coming from the bulrush edges along the open lake. When we ran across Okeechobee's open water toward Indian Prairie Canal, huge clouds of ducks zipped around, above and behind us. Groups of weekend waterfowlers were set up and hunting from boats in makeshift blinds along the bulrushes, and they were dropping their limits of ducks about as fast as they could load their shotguns.

If it hadn't been a Saturday, when the weekend hunting brigade was out, I doubt we ever would have known about the lake's ducks. But that afternoon, we borrowed shotguns and a couple dozen decoys from a friend who owned a lakeside marina. We went back to the bulrushes and, in the last hour before sunset, we each collected our daily bag limit of four ring-necks (the birds were worth 25 points each that year. Now they are scored at 35 points, so only three per day may be bagged). Early the next morning found us back at the same spot, with decoys out and shotguns ready. The ring-necks swarmed into the decoys like moths around a farmhouse nightlight, and we filled our bag limits in minutes. Before the sun was far above the horizon, our decoys and shotguns had been stowed and we were catching bass in the bulrushes.

Since that time, I *never* make a fall or winter trip to south Florida without planning for at least one day of duck hunting on the "Big O." And I've yet to make a trip without experiencing first-rate waterfowl shooting.

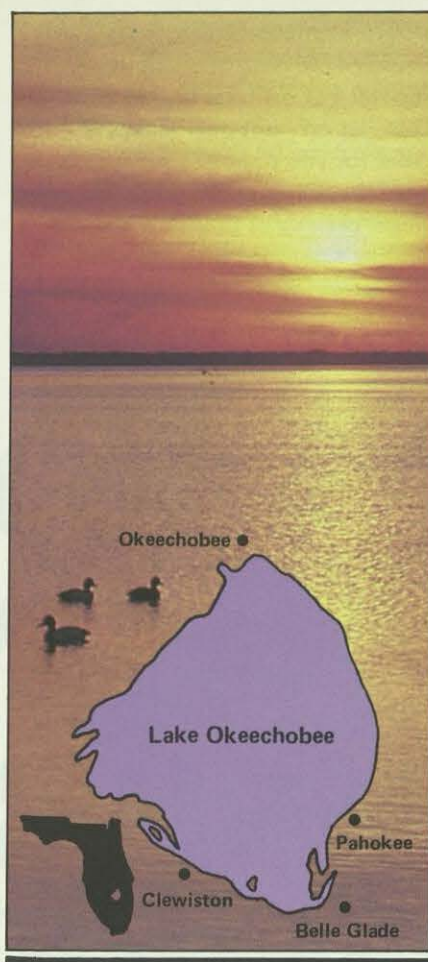
Anyone having even basic duck hunting knowledge can gun Okeechobee and, within a day or two, learn enough about the lake

and where the ducks are to enjoy fast shooting. Generally, the south, west and north shores of the 450,000-acre lake (the second largest lake completely within the borders of the United States) are best. Basically, there are two types of duck hunting available on Okeechobee; gunning for puddle ducks in shoreline marshes and potholes, and hunting along the open, outside edges of shoreline bulrush and cattail beds for ring-necks. Hunting the inside marshes and potholes is excellent for teal, mottled ducks and, occasionally, mallards, pintails and gadwalls. But this shooting is more specialized and is practiced mostly by savvy local hunters, experienced guides and airboaters. For average hunters looking for sporty, wide-open-to-the-public, easy-to-do waterfowling, gunning ring-necks is the way to go on Okeechobee.

It is probable that Okeechobee attracts more ring-necks than any other Florida lake, and most of the ducks on Okeechobee in recent years have been ring-necks. This fast-flying, diving species holds in huge rafts and flies in big flights at dawn and dusk—all day during windy weather. Hunters new to the lake should simply watch where ring-necks are trading, then outboard to the area and build a blind of natural materials. On weekends, some of the better spots close to marina access areas can be crowded. But Okeechobee is huge, there are plenty of ducks and there are lots of prime waterfowl hunting spots far from other hunters.

A point of bulrushes or cattails is an ideal blind site. Simply push your boat into the weeds, and bend the plants over to help conceal it. Camouflage-painted johnboats are ideal, but I've had great shooting even from bright-orange bass boats that we hid in the bulrushes. Sometimes it also helps to hide boats with cabbage palm fronds which can be found and cut onshore.

Some hunters employ lots of decoys for duping big flights of ring-necks. While 75 or 100 decoys no doubt draw ducks like a magnet,



Okeechobee is huge, there are plenty of ducks and lots of waterfowl hunting spots far from other hunters.

I've rarely used more than three dozen and I've always had good results—at least for "pass shooting" ring-necks.

The big rafts of ring-necks move around Okeechobee and hunters sometimes must do a bit of searching to locate new hot spots. But some of the best areas that consistently provide prime ring-neck shooting are on the lake's west side. They include Little Sarasota, Indian Prairie Canal, Horse Island, Fish-Eating Bay, Eagle Bay Island and the Steamboat Area.

Florida has a split-phase general duck season for 1986-87;

November 26-30 and December 15 to January 18. (There was also a bonus 5-day season in late September. The September season was established primarily to allow increased harvest of early-migrating teal and nonmigratory wood ducks.) During the two general seasons, Florida hunters must use the "point" bag limit system. A hunter has taken the limit of ducks when the last bird causes him to equal or exceed 100 points worth of birds. Ring-necks are valued at 35 points for the 1986-87 season, so gunners can take only three of this species per day.

The Lake Okeechobee area caters to outdoorsmen and offers some of the best sporting facilities in Florida. Fishing camps and boat and motor rental marinas abound. Restaurants and motels can be found in virtually all large lakeside towns, including Okeechobee, Lakeport, Moore Haven, Belle Glade and Clewiston.

Duck hunting guides can be hired through marinas and fishing camps. The current standard duck guide's fee is \$150 per day for two shooters. Some guides accommodate more hunters in a group and charge a bit more for the service.

Okeechobee duck hunters must have a Florida Hunting License Stamp, a Florida Waterfowl Stamp and a federal migratory bird ("duck") stamp. Complete state waterfowl hunting regulations are available from county tax collector offices and at many of their subagent offices. A detailed map of Lake Okeechobee is available from the Glades County Chamber of Commerce, Box 490, Moore Haven, Florida 33471. 

EDITOR'S NOTE: Nontoxic steel shot must be used for waterfowl hunting on the area lying lakeward of and bounded by the Lake Okeechobee Levee, the S.R. 78 Kissimmee River Bridge and S.R. 78 from its intersections with the Lake Okeechobee Levee at points near Lakeport and the Old Sportsman's Village Site. This regulation will be in effect for both remaining phases of the 1986-87 waterfowl hunting season.



unting with the bow and arrow for Florida's white-tailed deer can be a tremendously successful and satisfying outdoor sport. Its re-

wards depend much more on skill than luck. If you haven't tried bow hunting, you are missing the opportunity to better understand your game, and to increase your skill and pleasure outdoors. Equipment for bow hunting is simple in principle, but takes some knowledge to properly select and considerable practice to use skillfully.

There are two basic types of hand-drawn bows on the market today: the recurve and the compound. Either will do the job, but their design and workings are quite different. Recurves are one-piece, full-length limbs that, when drawn, store all their energy at full draw. You actually hold the bow's full-weight capacity. Recurves are lightweight and generally cost less than compound bows. Although a recurve will do its job satisfactorily, the compound has become the major choice of most bow hunters today.

The complex mechanical design of the compound bow doesn't deter from its popularity or productivity. First of all, the marvelous array of bow styles, designs, colors, draw weights (usually adjustable to the hunter), lengths and purposes are staggering. They can confuse an uninformed potential buyer. But as complex as they appear, the compounds marketed today are a great buy for the novice or occasional

hunter, as well as the ardent bow hunter.

When a compound is pulled back to full draw, past the point where its eccentric wheels on the ends of the limbs have

broken over completely, you actually hold only one-half to one-third of the total draw weight. This "let off" not only makes it easier for you to hold your bow at full draw, but you can do so for longer periods of time (a common hunting situation) with less chance of creating inaccuracy from fatigue.

physique. You need to determine your draw length, the bow's poundage for the game you're hunting and any personal preference in style or color you have. The bow must fit your needs, and this should be your biggest concern.

Arrow shafts, fletching and hunting broadheads all make up the

BOWS AND ARROWS FOR BUCKS

Text and Photographs

By Bob "Greenie" Grewell



If you're shooting a compound bow which has a 50 percent let off, and its maximum peak weight is 50 pounds when you reach full draw, you will be comfortable holding only 25 pounds. The bow stores the other 25 pounds in its limbs and pulley/cable assembly, once the eccentrics have been turned over.

When you purchase any type of bow, it must properly fit your

lengthy projectile that actually inflicts the wound in the animal. The best arrow shafting material available is aluminum. It is the most durable and it will do a consistently more efficient job under varying conditions.

Arrow shafting can be purchased in cedar wood, fiberglass and stainless steel, as well. But, aluminum is the most popular

because of its durability and relatively low cost. Shafting comes in a variety of colors, including dull green, camouflage and an assortment of brighter colors.

When your arrows are initially purchased, they need to be sized to the correct length to coincide with your draw length. This is determined by nocking an uncut shaft and pulling it back to your full draw, then allowing an additional inch to extend past the bow handle. If your draw length is 30 inches, for example, then the arrow shaft should be cut to 31 inches.

Feather fletching or plastic vanes determine the arrow's accuracy once it's in flight. Feathers are the truest form of stabilization and provide the greatest accuracy, but rain and moisture can affect their performance. If they become wet, feathers often fail to stand erect. And they're more susceptible to damage from field use and target practice.

Plastic vanes appeal to many bow hunters because they aren't damaged as easily and weather doesn't affect them like feathers. Both feathers and vanes come in a variety of colors.

The type of broadhead point you purchase is normally determined from your individual preference, or when beginning, you may rely on preferences of other bow hunters. There are two-three- and four-blade broadheads, razorblade inserts and numerous other styles. Most any popular brand of hunting head that is weight balanced for use with your particular length and weight of arrow shafting will sever a deer's vital organs if it's sharp. Broadhead sharpness can never be stressed enough. A sharp arrow point is a must if you expect to stop game quickly and cleanly.

Camouflage clothing is imperative to bow hunting if you want close encounters with game. Camouflage clothes will not help you to

magically disappear, but they do break up your body outline and allow you to blend with the natural colors of foliage.

Two-piece suits and coveralls are popular with many hunters during fall and early winter. During varying weather conditions and in different habitats, you need to be careful to

externally applied scent, but must be used sparingly. Human odor frightens wild creatures and their sensitive noses can pick up your body odor at great distances. Cover scents can give you a greater chance of being undetected by your game when swirling air currents carry your body odor throughout the



conform with the landscape so there is less chance of deer spotting you. They are very attuned to shapes and movement, especially when they're close to you.

Liquid scents are a personal preference, but their use can improve or ruin your hunt. A preferred scent is fox when you only want to mask your own scent. Skunk scent is an often used

woods.

Sex-oriented scents and other attracting scents are used during the "rut" to attract bucks. Don't use a sex scent when the rut isn't in the air, though. By the same token, don't use an apple scent when hunting areas void of apple trees. The deer will become suspicious. Use all liquid scents correctly and they will aid you in getting close to ▷

your intended game.

Sights are an acceptable accessory for use with your bow. Typically, a small plate having one to six adjustable pins is mounted on the face of the bow handle. Each pin has an adjustment for moving it either horizontally or vertically. Using sights doesn't mean you don't need to learn to judge yardage because the ability to predict yardage is still an important matter. Sights can

Bow quivers which mount on the bow's handle and store arrows so they're always readily available are a real plus. When using broadheads while you're hunting, this type of quiver must be designed so that it has a protective cover over the sharp broadheads. This not only reduces exposed broadheads from being dulled when bumping against limbs and underbrush, but it also shields the heads and keeps you or others

even more to greater distances, when game has more time to respond.

Including a sharp knife in your gear is imperative. A five- or six-inch blade length sheath knife which attaches to your belt, out of the way until it's needed, is a wise choice.

A small day pack or fanny pack which straps to your waist and rides on your backside can be used to carry miscellaneous items such as rope, a camera, sandwiches or a rain poncho. This leaves your hands free for other hunting tasks.

A tree stand is important if you plan to hunt from above ground. The newer styles of portable and



Bow hunting depends more on skill than luck, but every tool you can use increases your chance for success.

increase your scores because they enable you to tighten your arrow groupings and shoot more consistently. This makes for less wounded game in the woods, which is what all hunters should strive for.

An armguard should be attached to the inside of your forearm on the arm of the hand that holds the bow handle. If you draw the bow string back with your right hand, then it attaches to your left forearm, and vice versa. This keeps the bow string from slapping against your clothing and you will thus be less inclined to alarm the animal just when you release the string.

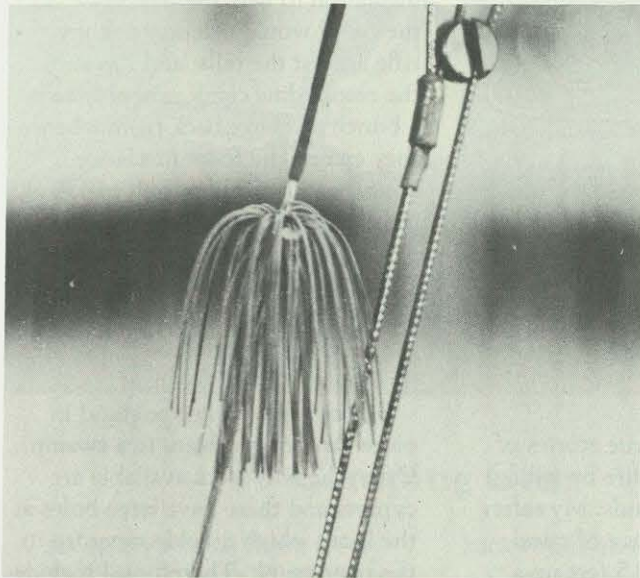
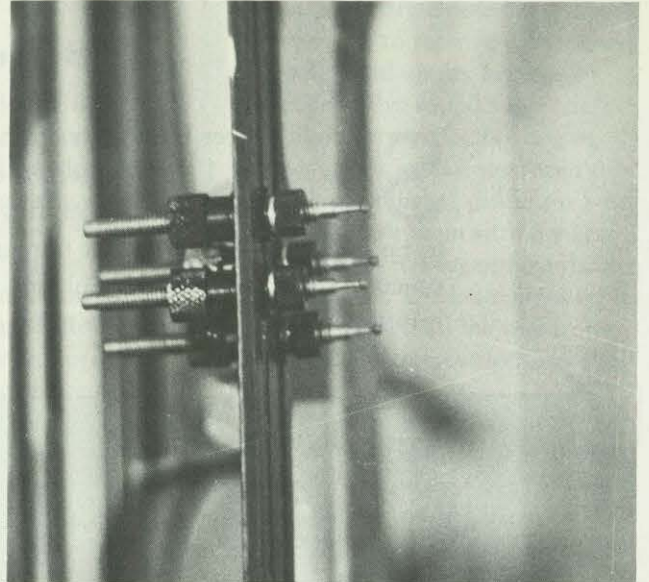
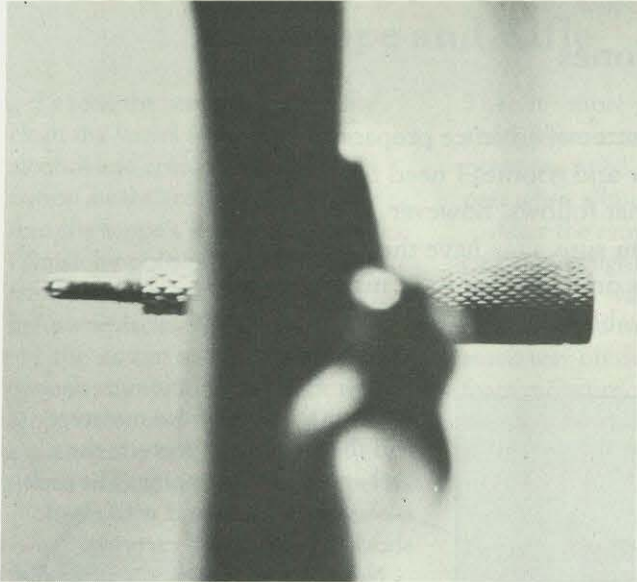
from getting cut. If you practice with a quiver attached to your bow, hunt that way. If you remove the quiver during practice, hunt with it removed. Once you get used to hunting a certain way, stick with it and you'll be a more consistent bow hunter.

String silencers, which absorb the initial "string twang" when an arrow is released, should be attached to your bow string. When an arrow is released without these sound-absorbing silencers, the sharp twang sound can spook a deer into jumping off-target before the arrow reaches a vital point. This applies

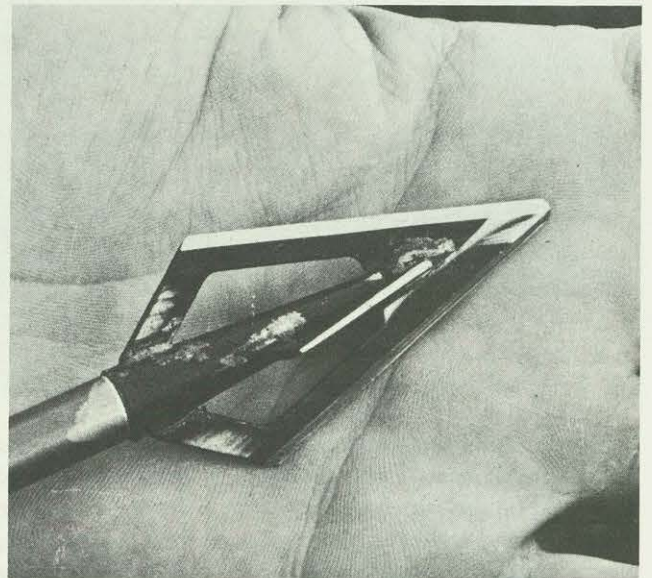
portable-climber types are excellent for safely placing you high in a tree, which puts you advantageously above a deer's normal sight and scenting capabilities. Once a stand is securely positioned in a preselected location, you can attach a strong safety belt around your waist, with the other end wrapped around the tree's main trunk. Then you can feel confident of not falling out.

Don't make the mistake of not understanding your hunting equipment or not having the right hunting items this year. If you buy new equipment, be sure to familiarize yourself with its use before you hunt. Every tool you use to hunt with can enhance your chances of success, if you use it right. If you have questions, stop by your local archery shop or talk to a bow hunting friend who's more experienced. They'll set you up right. 

Many bow hunters rely on traditional methods of aiming an arrow, but others prefer to use a slight attachment. One common type of bow sight uses a set of small pins. Each pin can be adjusted vertically or horizontally, with one for each of several distances. Use of sights, however, still demands the ability to judge the target distance accurately.



String silencers are simple attachments which fit to the bow string. They are useful because they help silence the *twang* of the string when an arrow is released.

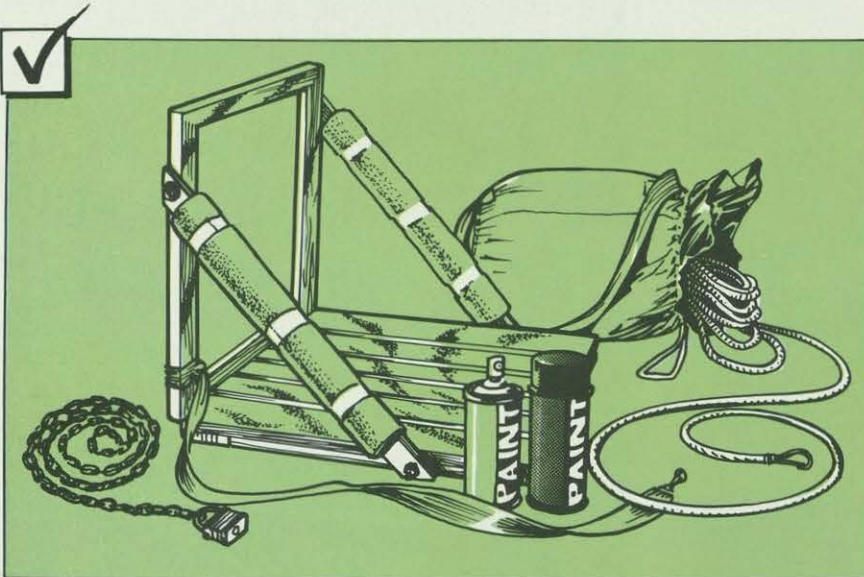


Hunting arrow points, such as the broadhead shown here, are available in a variety of styles and weights. It is important to balance points with arrows and to keep them sharp.

CHECK OFF FOR DEER HUNTING

By Ted Jones

Successful deer hunting is often a matter of advance preparation. Before deer season, I like to check the gear and goodies I need to be confident and comfortable while hunting. What follows, however, is not meant to be the *gospel on gear*. Other hunters, I'm sure, may have their own ideas on equipment. These are simply my ideas on items that have made my deer hunting in the Sunshine State more enjoyable over the years.



Portable Tree Stand

My tree stand gets a thorough inspection for safety's sake. I check each weld on the cutter blades of both the stand and hand climber. Next I eyeball the platform for rotten spots and loose fittings.

Then I give it a paint job to cover last season's dings and scratches. I cover the entire stand first with a coat of flat-green spray paint. After it dries I mottle some flat-black squiggles on for camouflage. Then I may sharpen up the edge of the cutter blades with a file so they'll grip better.

Next, I gather all my tree stand accessories. First, foremost and always, I have and use a safety belt.

I've heard too many true stories of hunters paralyzed for life by falling from elevated tree stands. My safety belt gives me great peace of mind when I'm buckled in 15 feet up a cypress in the predawn darkness of a swamp.

Along with the safety belt comes a gun holder that clamps to the stand's side rails, a small cushion, a couple of rope-on tree steps to hang my gear on once I'm aloft and a 20-foot length of 1/4-inch rope with a snap fitting on the end for hauling up my rifle.

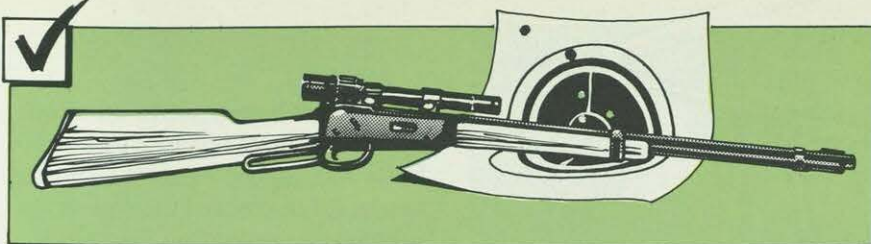
This all fits easily in a plastic garbage bag that can be inserted in a nylon stuff sack. The garbage bag

protects the items from moisture and the nylon sack protects the garbage bag from ripping. The sack is secured to the stand with elastic shock cords for easy carrying.

Next I cover the stand's side rails with foam-type water pipe insulation to help prevent noise. In the past I would often whack my rifle against the rails, and I'm sure the resounding clank probably sent a bunch of bucks back from whence they came. The foam insulation counters this problem and makes the rails more comfortable to lean against. I also tape extra nuts and bolts to the stand after learning the hard way that when you drop a wing nut in dark swamp water it's gone forever.

Setting a portable tree stand in place can be a problem in a swamp. Often the only trees available are cypress and these have large boles at the bases which quickly taper up to the main trunk. Therefore, I include an extra pair of rope-on tree steps in my gear. I attach these to the bottom, fat portion of the tree and stand on them to reach up and secure my stand to the straight portion of the trunk.

When I hunt from the same tree for several days, I use a length of chain and a padlock to secure the stand to the tree and deter possible theft. I also dip the chain in a rubber coating compound so it won't rust or rattle.



Scope and Rifle

I check the scope and carefully clean the lenses if needed, using alcohol and cotton balls. Flexible cotton swabs are good for getting into the scope's nooks and crannies. I finish by polishing all moisture from the front and back lenses before replacing the covers.

I also go out to the range and fire enough ammunition to check the scope's zero and make any needed adjustments, and I make sure the rifle is feeding and ejecting properly.

Then it's more practice by firing shots from sitting and offhand positions to be sure I can do my part when a buck comes by.

After the range session I wipe the rifle down, lightly oiling the exposed metal with a water-displacing lubricant and rubbing a little gun stock wax on the wood to protect it from moisture. I check to be sure the sling swivels are snug and give them a dab of oil to prevent rust.



Camping Gear

I set up my tent to check it for rips and tears. I repair them, using a tent repair kit containing a needle, thread, canvas patches, screen material and fabric cement. Kits are available in the camping section of many sporting goods and discount department stores.

Next I clean and fire up the gas stove and lanterns. I replace generators as needed and oil the pump washers. I also buy fuel, mantels, spare generators, maybe a spare fuel cap and a lantern globe just to have on hand in case of a

backwoods breakdown.

Continuing on, I round up all my other camping gear—water jugs, utensils, tarps, sleeping pad, sleeping bag—then inspect them and fix or replace what's needed.

My sleeping bag gets special attention. It has a polyester fill so I clean it by soaking it in a cold water solution of Woolite or a similar product. This removes body oils that can affect the bag's ability to insulate. Next I rinse it in several changes of clean water and hang it outside to dry.



Clothes and Footwear

I replace buttons, sew tears and repair belt loops. I turn the pockets inside out and clean them with a small brush to remove debris. Woolens are dry cleaned and then hung outside to remove the cleaning odors. I round up my belt and suspenders. I've found suspenders to be the best way for holding up hunting pants, even if they aren't particularly stylish. I gather my wool socks and stash them with my gear along with several big red bandanna handkerchiefs. The bandannas serve a myriad of uses, all the way from handkerchiefs to face cloths to dish towels or bath towels.

Since I hunt in swamps, my footwear is either chest-high waders, hip boots or rubber boots. These are checked by filling them with water and marking any leaks. Repairs can be made with a rubber repair kit similar to a tent repair kit. It contains rubber patches and cement. If any leaks are large I purchase new items. Wet feet are no fun on cold mornings.

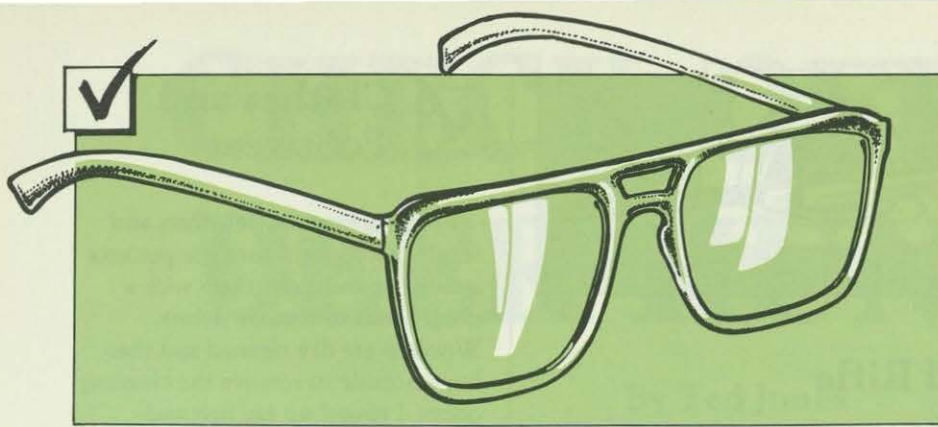


Personal Items

My small personal items are carried in my hunting vest. Since I wear hard contact lenses, I carry a spare pair along with an empty case and a bottle of wetting solution. As an added back-up I carry a pair of prescription glasses.

On the subject of eyeglasses, I'd like to stress a point about eye safety. Prior to getting contacts, I wore glasses for many years. The first time I was in the woods without them, I was shocked at the number of times branches and limbs nearly hit my eyes. It was an "eye opener" to say the least. Now I wear clear safety glasses for protection while walking to my stand. I also carry a pair of yellow shooting glasses, and once I'm up my tree, I put them on for the increased contrast they provide.

Along with glasses and contacts, I also carry in my vest an extra clip of ▷



ammunition, a first aid kit, a film canister containing scent-soaked cotton, survival kit, antacid tablets, toilet tissue, two large freezer bags (for the heart and liver), a folding lock-back knife, compass, insect repellent, several small packets of premoistened towelettes, a couple of

granola bars and spare batteries for my headlamp.

My headlamp has become a favored item. For years I used a small flashlight, but I had to hold it in my mouth to have both hands free while setting up my stand. So, I switched it for a headlamp powered

by a six-volt battery, worn on my belt. However, the battery was heavy and its cord was bothersome. Last year I discovered the perfect solution. It's called the Chouinard Light Light and weighs less than seven ounces with the AA batteries which power it. The batteries are encased on the Light Light's headband and they eliminate the bothersome cord.

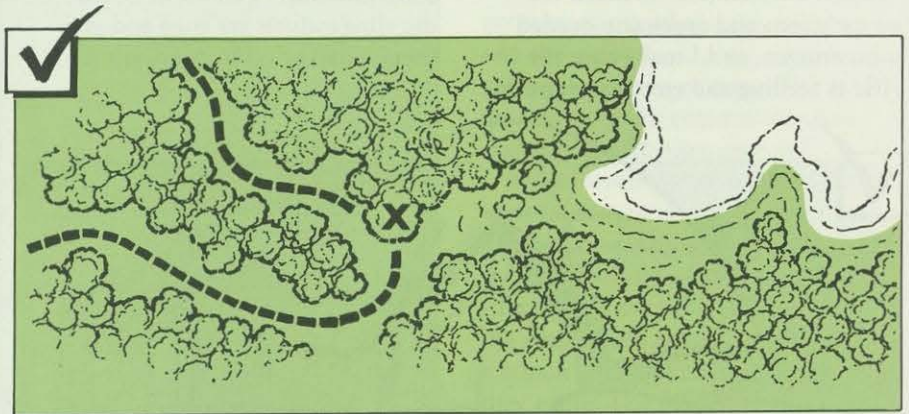
The last personal item is a beverage container. When hunting during hot weather, I carry a canteen (sometimes two) filled with water on an Army-style pistol belt. In cold weather I switch to a vacuum bottle and carry a hot beverage.

✓ Vehicle Maintenance

All tires including the spare are checked for proper air inflation pressure. Motor oil and transmission, power steering and coolant/antifreeze fluid levels are all checked and filled as needed. Then I crawl underneath to inspect for leaks. I learned to do this several years ago after I lost a week's hunting when the gas tank began leaking the day I arrived in camp. An early inspection would have revealed its rusty pin holes and I could have made other arrangements. Once I'm satisfied my vehicle is OK, I inspect the accessories to make sure the jack is working properly and that there's a lug wrench on board. Other items I include are jumper cables, a tow strap and a shovel.

✓ Physical Fitness

I try to walk every day and I like to complete four miles in about an hour. Closer to hunting season, I backpack my portable stand while walking. Then about two weeks out, along with the stand, I carry a small, seven-pound barbell in each hand. This way I build up my back and arm muscles to withstand the added weight of my stand and rifle.



Intended Terrain

I've found the human activity associated with hunting season sends deer scurrying to the thickest part of their domain. This usually means swamps. Swamps provide deer with food and cover plus the difficulty of access by hunters makes them the perfect hiding place.

Insects can be awful on deer and hunters when the weather is mild and humid. But with the onset of winter's cooler, dryer weather, deer can be comfortable lying up on dry knobs and feeding on underwater vegetation. I've seen deer stick their muzzles in water up to their eyes

when feeding on aquatic vegetation.

Once I've decided on the area of swamp I want to hunt, I mark two different trails to my tree. This helps take advantage of the prevailing wind, plus I've found that continued walking over the same trail in a wet swamp will soon erode it so deep you'll be "up to your nose" in water. To mark the trails, I use large thumb tacks which have been covered with reflective tape. The tacks are unobtrusive and don't give away your location. You can make your own or buy them.

Getting all my gear together, organizing it, inspecting it, trying to improve or modify it—all this increases my confidence, makes me more comfortable and maybe helps me hunt a little longer. Or at least until the big buck I'm hoping for deftly picks his way toward me. ❶

Florida's gentle gopher tortoise is the largest of North America's living land turtles. Its occurrence in the state has benefitted man for thousands of years. The earliest Floridians were hunter-gatherers for whom the gopher tortoise provided a food source and shell and bone for use in making ornaments and tools. More recent Floridians have harvested the species primarily for its meat, although it has also been collected for the pet trade.

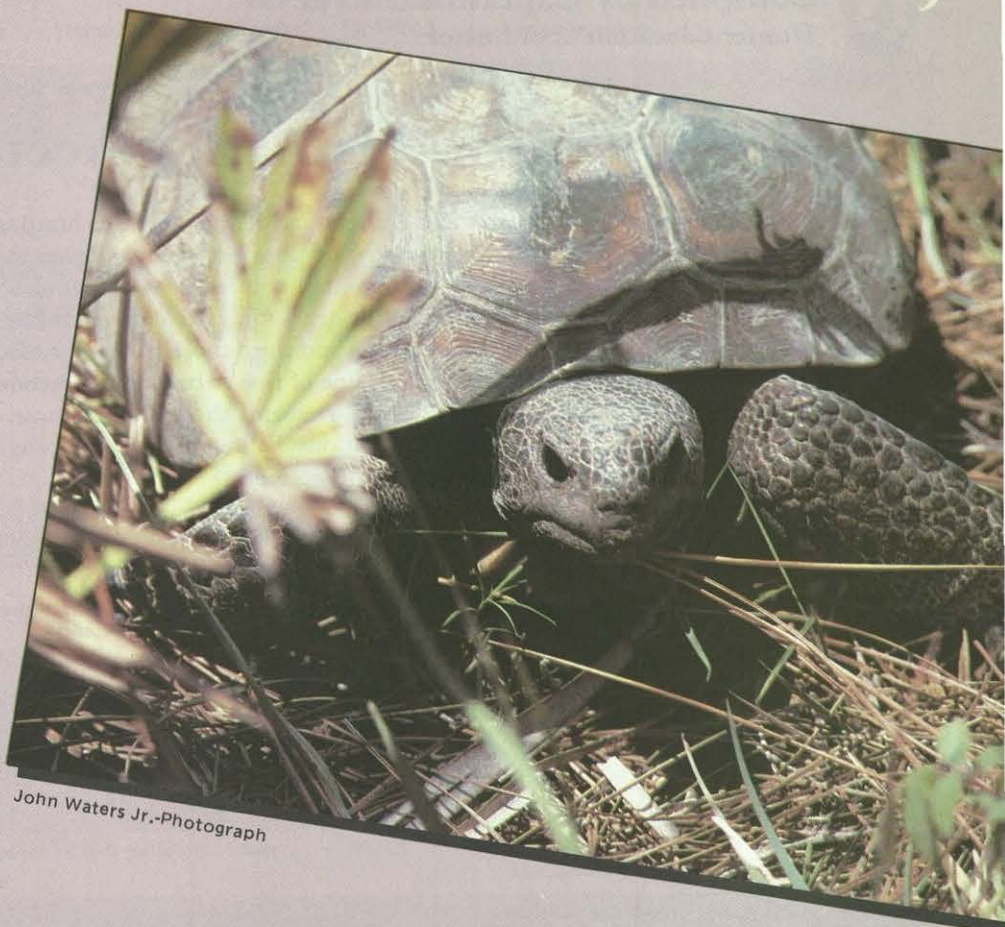
The continuing popularity of gopher tortoise meat has contributed to a market demand that has resulted in the potential for illegal harvests of high numbers of "gophers" in recent years. To protect this valuable species, Commission law enforcement personnel have made arrests which, in some cases, have resulted in confiscation of hundreds of gopher tortoises in single shipments.

Only a few decades ago, the gopher tortoise was fairly abundant in its primary Florida habitat—the dry, upland sandy soil regions ("sandhills"). However, this habitat has been altered substantially by human activities. Increasingly, use of the land for urbanization, transportation, intensive forest culture and agriculture is steadily reducing the available acres of suitable gopher tortoise habitat. And, reduced habitat reduces the species' population.

Although the gopher tortoise occurs in all of Florida's 67 counties, it is found in very low numbers in many. Some estimates are that Florida currently has fewer than one-fifth of the gopher tortoise numbers it had only a century ago. Other estimates indicate an equally bleak outlook for the future, suggesting within the next three or four decades, most of the remaining habitat will be converted to uses which will not support the species.

The gopher tortoise is equipped with powerful, flattened front legs, well adapted for digging, and it uses them to dig a sloping burrow which typically extends five to 15 feet and to depths of six feet or so below the surface. The burrow often ends in a chamber. Frequently, other animals

Delicate Balance



John Waters Jr.,-Photograph

Species: Gopher tortoise (*Gopherus polyphemus*)

Florida Status: Species of special concern

use gopher tortoise burrows, either sharing them with the tortoise or using them when abandoned. Bobwhite quail, burrowing owls, several reptile species and a number of mammals regularly visit gopher tortoise burrows for shelter, breeding or other purposes.

The gopher tortoise is mainly a vegetarian, feeding on grasses, legumes, fruits and other low-growing plants. Like other turtles, it is an egg layer. Females typically breed at 10 to 15 years of age and generally produce one annual clutch of eggs, averaging perhaps half a dozen in number. Eggs are laid in the extracted soil surrounding the burrow entrance, and take about 80 to 90 days to hatch. This species is

slow-growing and long-lived. Maximum life expectancy in the wild is reported to be up to 60 years.

To protect this valuable and beneficial turtle, the Commission has recently acted to prohibit the taking of gopher tortoises in the Ocala, Apalachicola and Osceola national forests and in the southern one-third of the peninsula (south of S.R. 70). Also, for areas where harvest for personal use is permitted, possession limits have been reduced to two per person and the taking season confined to October, November and December only.

—John Waters Jr.



Compiled by Captain Ed Tyer
Hunter Education Coordinator

1985-86 Hunting Accidents

During the 1985-86 year, 30 firearm and archery accidents related to hunting were reported to the Commission. Although any accident is undesirable news, the number last year was lower than for the previous two years. In 1984-85, 43 accidents were reported—the highest number in a five-year period.

Looking closer at the 30 most recent hunting accidents, only six were fatal. The most common (30 percent) type of accident involved self-inflicted injuries. The second and third most common situations (23 percent each) were accidents in which the victim was in the shooter's line of fire or beyond an intended target and accidents in which humans were mistaken for game, game sounds or movements thought to be game. The remaining one-fourth of accidents were associated with many different situations. Falling with or dropping a loaded firearm were involved in four accidents. The following is a summary of the 30 accidents:

SOUTH REGION

Day/Date	Time	Age of Shooter	Firearm	Distance	Game Sought	Open Land Or WMA	Circumstances
Saturday 10/19/85	8:00 a.m.	14	shotgun	2 to 5 yards	dove	open	The shooter was walking behind the victim. The shooter stumbled, his gun discharged, shot hit the victim in the lower back. Fatal.
Thursday 11/28/85	5:00 a.m.	23	rifle	less than 1 yard	deer/hog	WMA	The victim was walking in a swamp, carrying hunting equipment and a rifle, when he became tangled in some vines. The rifle discharged, bullet struck him in the right ankle.
Thursday 11/28/85	7:00 a.m.	unknown	unknown	100+ yards	duck	open	The shooter was in a duck blind and shot at a duck. The shot hit three men who were in an airboat.

NORTHEAST REGION

Saturday 11/16/85	7:00 a.m.	40	rifle	11 to 20 yards	hog	open	The victim was sitting behind a tree when the shooter thought he saw the tusk of a hog through his scope. He fired and a bullet struck the victim in the chest. Fatal.
Saturday 11/16/85	5:00 a.m.	unknown	rifle	51 to 100 yards	deer	WMA	The victim was mistaken for game and was shot in the arm and shoulder.
Sunday 11/17/85	9:00 a.m.	61	shotgun	51 to 100 yards	deer	open	The shooter shot the victim while he was shooting at deer. The victim was hit in the right arm.
Monday 11/18/85	8:00 a.m.	18	handgun	less than 1 yard	deer	WMA	The victim was attempting to remove his revolver from its holster when the gun discharged and a bullet hit him in the foot.
Thursday 11/28/85	afternoon	34	rifle	unknown	unknown	open	The victim was wounded in the right arm by an unknown shooter.
Thursday 12/19/85	5:00 p.m.	19	shotgun	2 to 5 yards	squirrel	open	The shooter was using the barrel of his gun to push back some brush when a branch hit his hand and caused him to pull the trigger. The shot hit the victim in the left shoulder.
Wednesday 12/25/85	1:00 p.m.	unknown	rifle	100+ yards	deer	WMA	The victim was wounded in the leg by an unknown shooter.
Saturday 12/28/85	5:00 p.m.	16	rifle	21 to 50 yards	deer	open	The shooter heard some bushes rustle, mistook the victim for a deer and shot him in the left thigh.
Saturday 1/04/86	10:00 a.m.	unknown	rifle	100+ yards	deer	WMA	The shooter shot at a deer and hit the victim in the chest.

NORTHWEST REGION

Day/Date	Time	Age of Shooter	Firearm	Distance	Game Sought	Open Land Or WMA	Circumstances
Monday 11/07/85	11:00 a.m.	16	shotgun	less than 1 yard	squirrel	open	The victim was in a tree. As he pulled his shotgun up by the muzzle, it discharged and the shot hit him in the chest. Fatal.
Saturday 12/07/85	8:00 p.m.	25	handgun	less than 1 yard	raccoon	open	The shooter had the victim on his lap, a handgun in the shooter's pocket discharged and a bullet hit the victim in the foot.
Monday 12/23/85	12:00 p.m.	14	shotgun	2 to 5 yards	unknown	open	The shooter was attempting to unload his shotgun when the gun discharged and the shot struck the victim in the right side. Fatal.
Sunday 3/16/86	6:00 a.m.	66	shotgun	21 to 50 yards	turkey	WMA	The shooter shot the victim while attempting to shoot a turkey. The victim was hit in the face and hand.

EVERGLADES REGION

Sunday 10/06/85	6:00 p.m.	32	rifle	21 to 50 yards	dove	open	The shooter shot the victim while shooting at cans. The victim was hit in the left ankle.
Friday 11/15/85	10:00 p.m.	62	rifle	less than one yard	unknown	WMA	The shooter was showing the victim a rifle when he fell out of a camper vehicle. The gun discharged and a bullet hit the victim in the leg.

CENTRAL REGION

Sunday 10/13/85	unknown	unknown	bow	unknown	unknown	WMA	The shooter was walking with an arrow nocked in his compound bow. He fell, and the arrow lacerated his leg.
Saturday 11/09/85	4:00 p.m.	28	muzzleloader	2 to 5 yards	deer	WMA	The victim was sitting in a tree stand, pulling his muzzleloader up, when the gun discharged.
Wednesday 11/20/85	5:00 p.m.	18	shotgun	11 to 20 yards	deer	open	The shooter was in a tree stand when he mistook the victim for a deer and shot the victim in the back. Fatal.
Friday 11/29/85	6:00 a.m.	unknown	shotgun	unknown	deer	WMA	The victim was mistaken for a deer and was shot in the back.
Friday 11/29/85	2:00 a.m.	19	shotgun	2 to 5 yards	deer	WMA	The shooter was loading his gun. When he closed the bolt the gun fired and a shot hit the victim in the thigh.
Saturday 11/30/85	7:00 a.m.	25	rifle	100+ yards	deer	open	The shooter shot at a deer but hit the victim. Fatal.
Sunday 12/01/85	5:00 a.m.	18	shotgun	less than 1 yard	deer	open	The victim was on a fence, with his hand over the muzzle of his shotgun. When he jumped off the fence, the gun went off and shot hit him in the index finger.
Wednesday 12/04/85	9:00 a.m.	25	rifle	2 to 5 yards	deer	open	The victim put his gun, pointing toward the cab, in the rear of his truck. When he got into the truck, the gun discharged and a bullet hit him in the shoulder.
Saturday 12/07/85	10:00 a.m.	15	shotgun	unknown	deer	WMA	The shooter saw the victim and mistook the victim for a deer. He shot him in the right leg.
Saturday 12/07/85	1:00 p.m.	23	handgun	less than 1 yard	deer	WMA	The victim's revolver was in its holster when the gun discharged and sent a bullet into the calf of his leg.
Saturday 12/14/85	5:00 a.m.	34	rifle	less than 1 yard	deer	open	The victim was in a tree stand when the trigger of his rifle caught on a branch and fired. He was hit in the leg.
Saturday 12/21/85	4:00 p.m.	31	shotgun	less than 1 yard	squirrel	open	The victim was walking when he tripped over a tree stump. The gun fired and he was hit in the wrist.

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W O O D • D U C K S

A Color Art Print for You

Many people consider the wood duck our most beautiful native duck. The drake, with its colorful bill and crested head, rich maroon breast and vivid sides rivals the beauty of any duck. The hen is somewhat drab in color. This characteristic has an advantage of making the female much less visible while nesting, and thus less likely to be found by a predator.

Wood ducks nest in hollows in trees both near and sometimes far from water, where they typically lay 10 to 15 eggs. When the young hatch, they leave the nest shortly thereafter, even though they cannot fly at this time. They fall to the ground or water, landing like little balls of down, thus experiencing their first encounter with survival in the wild, even before they begin to feed. Hatchlings can walk and swim, and will follow the hen as she teaches them to feed and avoid predators by instinctive demonstration.

Wood ducks prefer freshwater marshes, swamps and creeks, a habitat type that has been much reduced in Florida during recent decades. With many bottomland hardwood swamps now gone, there are fewer nesting trees available as well as less freshwater habitat. Wood ducks readily accept and use man-made nest boxes, and making them is a popular activity with conservationists. ▷

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It's The Law

By Major Kyle Hill

How close to roadways or residences can I hunt or shoot?

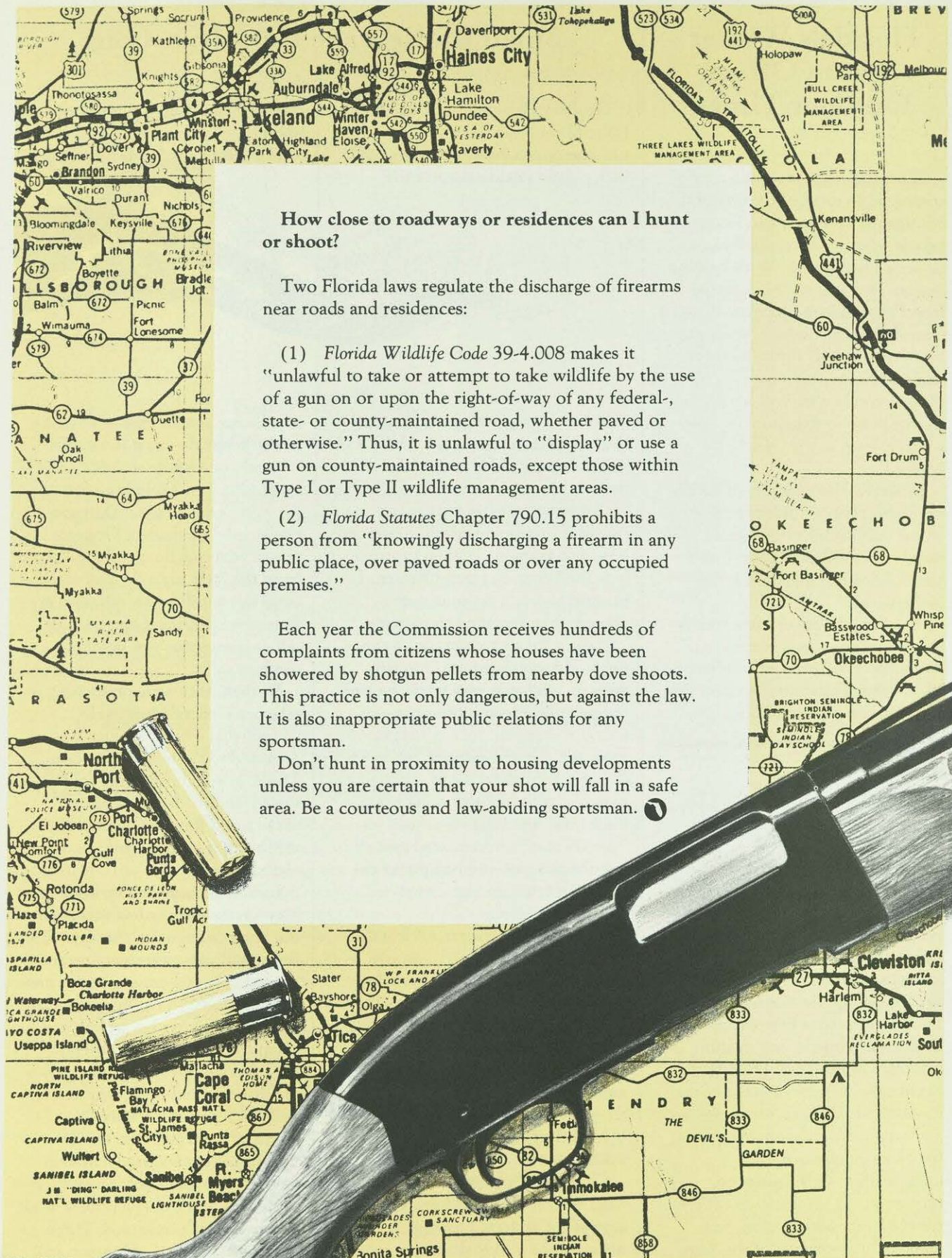
Two Florida laws regulate the discharge of firearms near roads and residences:

(1) *Florida Wildlife Code 39-4.008* makes it "unlawful to take or attempt to take wildlife by the use of a gun on or upon the right-of-way of any federal, state- or county-maintained road, whether paved or otherwise." Thus, it is unlawful to "display" or use a gun on county-maintained roads, except those within Type I or Type II wildlife management areas.

(2) *Florida Statutes Chapter 790.15* prohibits a person from "knowingly discharging a firearm in any public place, over paved roads or over any occupied premises."

Each year the Commission receives hundreds of complaints from citizens whose houses have been showered by shotgun pellets from nearby dove shoots. This practice is not only dangerous, but against the law. It is also inappropriate public relations for any sportsman.

Don't hunt in proximity to housing developments unless you are certain that your shot will fall in a safe area. Be a courteous and law-abiding sportsman. 🎯



Conservation Update

By John Waters Jr.

Florida's Winter Season Offers Outdoor Times

Winter in Florida is mild compared to most of the rest of the contiguous 48 states, and for many people who live here, it's their favorite time of year. With hunting season, bird migrations, lowered insect populations and many days of clear skies and sunshine, there are numerous opportunities to enjoy wildlife. No matter what area of Florida you live in, you are not far from a place to fish, hunt or observe wildlife, even in the "dead of winter."

However, the numbers of people visiting Florida's outdoors this winter may well be the highest number in Florida history. Our state's human population is the highest ever.

By taking the small extra efforts to be courteous and to each do our part to keep our outdoor areas clean, Floridians can continue to enjoy our great outdoors.

Conservationists In The News

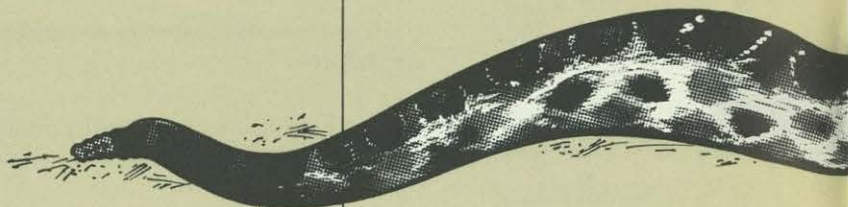
The Florida Wildlife Federation and the National Wildlife Federation recognized one Commission employee and two former Commission employees in September. **Ernie Kern**, director of the Commission's Everglades Youth Camp was named Conservation Educator of the Year. **Fred W. Stanberry**, former director of the Division of Wildlife, was presented a Special Conservation Award for his 37 years of work in conservation. **Biff Lampton**, former public information officer for the Everglades Region, was named Outdoorsman of the Year.

Small Rattlesnake Has Serious Bite

Geoffrey Dunnam of Wacahoota (near Micanopy) had an unforgettable adventure with an 18-inch pygmy rattlesnake in early

later, killed it with a pair of pruning shears."

Mrs. Dunnam decided it was best



October. It began when he spotted the small venomous snake while he was mowing a field on the family farm.

"I climbed off the tractor and caught it by placing my shoe over its head and grabbing it, then I carried it to the house and put it in a jar. I plugged the jar's opening with a sponge, then returned to mowing."

Snakes are very common in the fields and woods where Dunnam grew up, and that very week, he had caught another venomous one—a four-and-one-half-foot cottonmouth moccasin—in the carport. So, when Dunnam's mother, Libby, spotted a pygmy rattlesnake just outside the back door, she called Dunnam to "get rid of it." As it turned out, it was the same one he had put in the jar a short time earlier, but it had escaped.

"It had crawled up in a folded-up section of screen wire," Dunnam explained. "I carefully unfolded the wire, then took a stick and tried to coax it out so I could catch it. That didn't work, so since the snake wasn't thrashing around or anything, I once again placed my shoe over it, then picked it up just behind the head. That was a mistake!

"It opened its mouth and the head turned back. All I felt was a very slight scratch. I quickly dropped the snake, then a moment

to take her son and the dead snake to the hospital—"just to be safe."

"Only one of the snake's fangs caught me, just behind the nail of my right index finger," Dunnam explained. "And when I squeezed it, only a very tiny drop of blood oozed from the little 'scratch' made by the fang. But within a few minutes, my finger had a burning sensation. It felt as if someone was holding a torch to it."

By then, they were on the way to Alachua General Hospital in Gainesville, where Dunnam was admitted to the emergency room. There, hospital personnel confirmed their own identification of the snake, even though Dunnam had told them it was a pygmy rattlesnake.

It took perhaps half an hour for him to arrive at the hospital after the bite occurred. By that time, his finger and wrist were swollen and the swelling was moving up his arm. He was placed in the Intensive Care Unit shortly after his arrival, and he spent the next four days there.

"I received five vials (a large dose) of antivenin and other treatments, including pain medication," Dunnam explained. "It was an unpleasant experience." His arm swelled up almost as big as his leg.

He was in the hospital for a week before he was discharged. Three weeks after the bite, Dunnam still

could not fully flex his finger and there was still some swelling as the wound continued to heal. He was, however, past the stage where "a big black blister formed and my whole finger looked like it was so rotten it was going to fall off."

As far as catching snakes again is

concerned, Dunnam said, "Growing up in the country, like I did, made it as common for me to catch snakes as to mow the lawn. I'll probably continue to catch snakes—but," he emphasized, "I don't plan to do it with my shoe or a stick ever again."



Pigmy Rattlesnake

Venomous Snake Bite Treatment

The chance for a human to die from a venomous snake bite in Florida is very remote. The Florida Bureau of Vital Statistics recorded only 28 deaths from snake bite during the 26-year period 1959 through 1984. For comparison, their records show 46 deaths from venomous insects, such as bees and wasps, during the same period. There have been more than 28 snake bites in 26 years, but only a small percentage of the victims died. The major problem of venomous snake bites is the tissue damage caused by the venom.

Knowing what to do and what not to do is important to treating any victim of a venomous snake bite. Modern treatment recommendations note the following:

1. The most important thing to do is to get the victim to a hospital as soon as possible. It could be beneficial, if the time delay is only a few minutes, to telephone ahead to the hospital so that antivenin can be ready when the victim arrives at the emergency room.

2. Never use any of the so-called "snake bite first-aid kits" which contain suction cups, a cutting blade and a tourniquet. Suction will not remove the venom, and cutting can result in serious infections or other harm, such as severed blood vessels or nerves, to the victim. Because the venom moves through the body's lymph system (unless injected directly into a vein or artery, which is uncommon), a tourniquet does not stop the venom flow. For this reason, do not use a tourniquet.

3. The victim should never consume alcohol or any other substances, including coffee or tea, in an effort to medicate themselves. These substances do nothing to treat the bite, and could have very detrimental effects on the victim.

4. Although the use of ice packs is still somewhat controversial, some treatment experts say that ice packs are harmful because they slow down the movement of the venom, and this concentrates it in a small area where localized damage can be somewhat greater than it would be otherwise.

5. It is important for the victim to be made as comfortable as possible and be kept calm and reassured.

Nature Notes

Native American Tribes living in the Southeast when the first Europeans began to settle here sent young boys out to hunt wild turkeys. One of the weapons used was the blow gun, and the young hunters were known for their ability to get close enough to their game to kill it with a single dart into the eye.

The So-called Freshwater Eel is born in the Sargasso Sea, and it spends the early stages of its life cycle in the ocean. Later, the species migrates into fresh water, sometimes slithering over land to get from one body to another.

Our Common Anoles are members of the Iguana family, which also includes exotic species that grow to several feet in length. Our little anoles, however, seldom exceed five or six inches in length.

Red-Bellied Water Snakes typically congregate—sometimes in very large groups—for breeding, usually in late spring or early summer. They have living young which are born in late summer or early fall.

The Cattle Egret, native to Africa and southern Eurasia, first became established in Florida around Lake Okeechobee, about 1950. It now occurs casually as far north as eastern Canada.

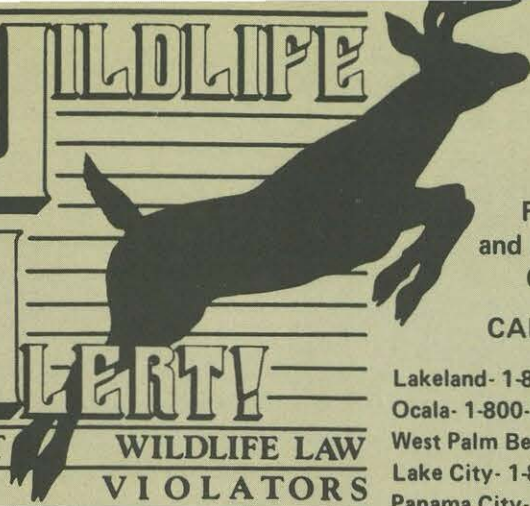
The Marsh Rabbit occurs in all of Florida's 67 counties. This popular small game species can be hunted year-round.

Eastern Chipmunks occupy a small range in Florida in the extreme northwestern part of the state.

Corrections

Some Salamanders hatch from eggs not laid in water, and a few give live birth to their young. The September-October issue erroneously stated "all of them hatch from eggs laid in water," Biologist Paul Moler reports. Moler also noted that the photograph on page 21 was of *brown* not *white* juvenile pelicans. ❶

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Floridana

On August 7, 1953, a U.S. Navy R4D-8 transport plane took off from Jacksonville Naval Air Station, carrying its six-man crew, three Florida Game and Fresh Water Fish Commission representatives and 4,000 live bass fingerlings. It had taken 15 months for the "red tape to be cut" so the fish could be stocked alive at their destination—the Yateritas River. It was the first time in Florida history that so many live fish had been flown so far and so high. The transport plane climbed to altitudes above 12,000 feet during the flight.

The three Commission men were Bill Snyder, division director; Charlie Clymore, education officer (both of the Northeast Division) and John F. Dequine, chief fisheries biologist. The lively, finger-sized largemouth bass had

been carefully and expertly grown to ideal stocking size at the Commission's Winter Haven Hatchery. They had been loaded into the transport plane in the same two electrically aerated transport tanks in which they had been moved by truck from the hatchery to the air station only a short time before take off.

Much excitement surrounded the arrival of the plane when it landed, four hours and nine minutes after its departure. Reporters, photographers and "cameramen" were on the scene, as were the local mayor, minister of agriculture, various military officers and other personnel. It was indeed an exciting, long-awaited event—complete with a splendid lunch. Later, color

films of the operation would be shown throughout Florida.

Considerable ceremony preceded the first release of the lively fingerlings, made by the local mayor from a helicopter, in full view of an enthusiastic crowd. Most of the fingerlings, however, were released from the aerated tanks aboard trucks at various points along the river.

The very next day the big transport plane left the island of Cuba, where this cooperative experiment had taken place. Leaving with expressed hopes that the experiment would result in a high survival rate for the fish in Cuban waters, the Americans came back home with their fish tanks empty. Cuban President Batista and his countrymen were eagerly looking forward to catching the Florida bass in years ahead.

—John Waters Jr.

